EXHIBIT B

Claim Chart: U.S. Patent 5,388,101
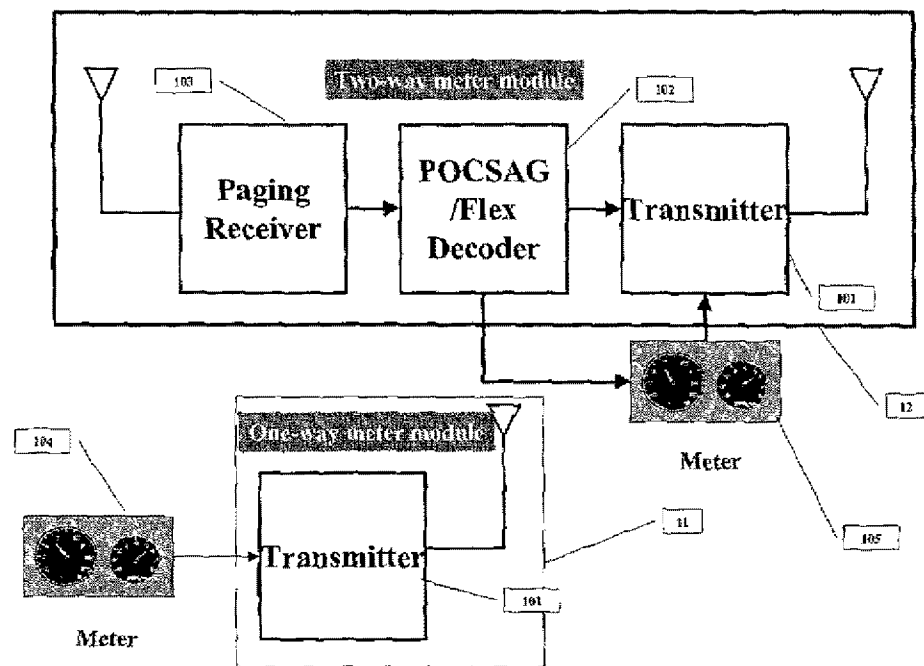
Claim Language	Accused System
Claim 1	Sensus FlexNet and compatible equipment
1. A base station configuration in a two-way communication interactive video network having	

a network hub switching center for routing communications from and to a plurality of subscriber units at various geographic locations served by a base station that processes digital data modulated on an r-f carrier and transmitted from a plurality of subscriber units dispersed over a predetermined base station geographic area by presenting multiplexed digital data synchronously related to the base station broadcast signal for communication from identified individual subscriber units within designated geographic service areas, comprising in combination,	"The Sensus FlexNet System is a wide area Advanced Metering Infrastructure (AMI) system that provides the ability to read water, gas and electric meters with a common AMI platform. The FlexNet system is designed around the central concepts of Simplicity, Flexibility, and Reliability. The system supports one-way radio frequency (RF) transmission for water and gas meters, and offers two-way RF functionality for electric meters, including on-demand readings, remote disconnects/reconnects, and load shedding."[1]

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Claim Chart: U.S. Patent 5,388,101

"The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[2]

"Metering data messages are collected by a network of receiver Base Stations. The reception range of each Base Station is typically over 5 miles in urban areas, allowing sparse infrastructure deployment for a wide variety of metering data collection applications."[3]

"According to a particular embodiment of the present invention, a one-way direct sequence spread spectrum (DSSS) communications network is used as the data collection channel

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Claim Chart: U.S. Patent 5,388,101

	(uplink) of an automatic meter reading (AMR) application and a paging network, or other suitable downlink network, is used as an optional forward (downlink) channel in a cost-effective manner."[4] "A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below."[5]

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"The Regional Network Interface (RNI) is the data storage and processing center for the Sensus FlexNet system. One of the primary functions of the RNI is to receive and store data forwarded from the Tower Gateway Basestation (TGB). Once the data is received at the RNI, the utility can then use the data to assist them in improving efficiency throughout the utility. A major feature of the RNI is that it was designed to operate with standalone water or gas services and is also capable of operating in a combination utility environment that consists of water, gas and electric services. The RNI provides the necessary application to maximize the benefits of data collection."[6]
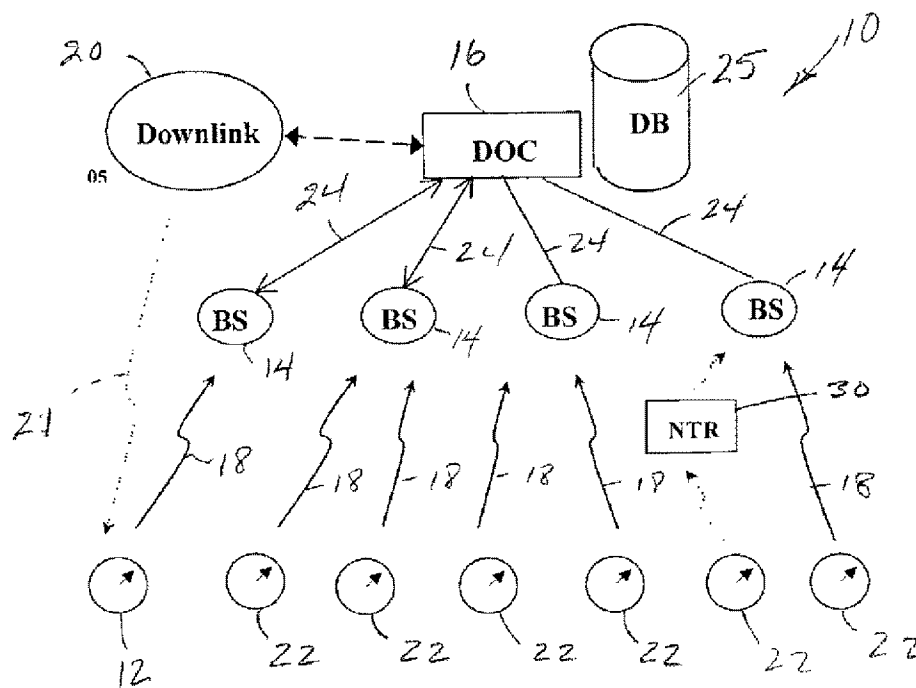
"Level 2: Space diversity is implemented to adjust network capacity, by controlling the amount of Base Stations used in order to provide coverage to specified meter population and metering data application in a specified geographical area. The initial phase of planning

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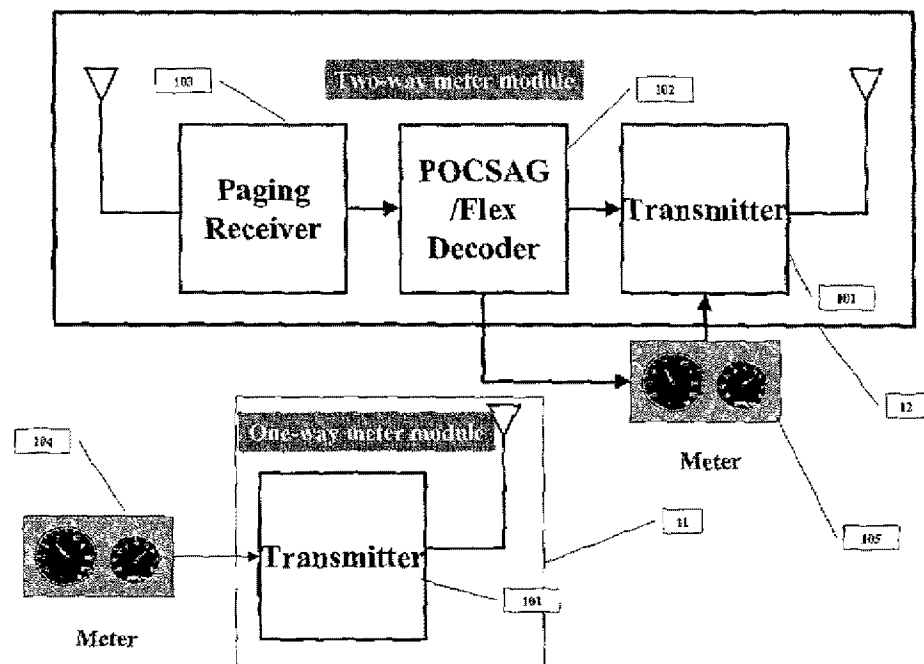|	
	network coverage includes optimal selection of the number and locations of Base Stations to be deployed in the specified area. When a Base Station covers a large area and the meter module density or air message frequency requirements continuously increase, at some stage the farthest meter modules would endure interference from the closer meter modules, and message reception probability from the farthest meter modules will decrease. Base Stations may be added at appropriate locations in the same geographic area, in order to increase network capacity and message reception rate. Adding Base Stations reduces the effective range between each meter module to be deployed and the Base Station closest to it, so that more meter modules or potential meter module locations are within a range of high air-message reception probability. Thus, the placement of additional Base Stations in the same geographic area, without any other change in the network or the meter modules, will in itself increase overall network capacity."[7] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be

Claim Chart: U.S. Patent 5,388,101

	representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
base station data processing and transmission facilities for transmitting to a set of local subscriber units and receiving from a subset of those local subscriber units multiplexed synchronously related digital data messages of variable lengths for point-to-point communication between individual subscribers with remotely located reception stations,	"Level 5 (highest level of air-message capacity): In a one-way data collection network, an additional, higher level of capacity may be reached by adding a downlink channel and deploying transceivers rather than transmitter meter modules. A two-way system has the inherent potential to be more efficient with radio airtime resource, since field units may be synchronized to a central clock, allowing transmission according to allocated time slots. The higher the rate of two-way meter modules in the metered population, the higher the capacity increase provided by adding the downlink channel. The wireless data collection network described above may be scaled up from one-way (data collection only) to two-way by connecting the DOC to a wireless downlink channel in a modular way as described above. In addition, the measures described in levels 2 to 4 above may be implemented in a two-way network as well in order to further increase network capacity."[8]

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"In a preferred embodiment of a two-way metering data network, both one-way (transmitter) and two-way (transceiver) meter modules operate on the same network. Transceivers can be interrogated for data at the time that the data is required, thus eliminating the need for repeated transmissions, which are required in a one-way network in order to maintain a certain level of data latency. In addition, by synchronizing all transceiver modules to one central real-time clock, a time slot for transmission may be allocated and specified for each transceiver in a coverage area, thereby increasing the efficiency of network airtime usage."[9]

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Claim Chart: U.S. Patent 5,388,101

"The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[10]
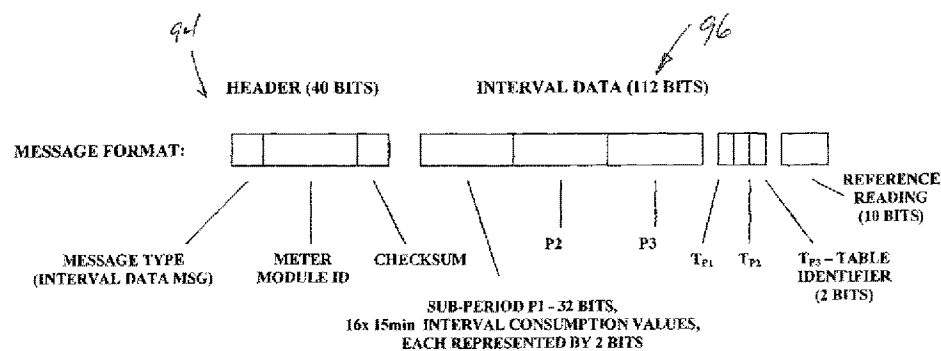
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Claim Chart: U.S. Patent 5,388,101

FIG 7

"In order to provide a high level of redundancy of interval consumption data, another data encoding method is provided, referred to as interval consumption data "interleaving air message encoding", which splits interval consumption values between separate messages. In a particular embodiment, depicted graphically in FIGS. 9A 9C, and in FIG. 11, three separate interval consumption data air messages 130, 132 and 134, are transmitted that relate to the same consumption period b-a. The first air message includes samples taken at times a, a+x, a+2x, . . . and is transmitted at time b. The second air message includes samples taken at times a+x/3, a+4x/3, a+7x/3, . . . b+x/3, and is transmitted at time b+x/3. The third air message includes samples taken at times a+2x/3, a+5.times.13, a+8.times./3, b+2.times./3, and is transmitted at time b+2x/3, as illustrated at block 136 in FIG. 11. More generally, in order to spread transmissions during the day, the offset between interval data arrays may be x/3+Nx, where N is an integer."[11]
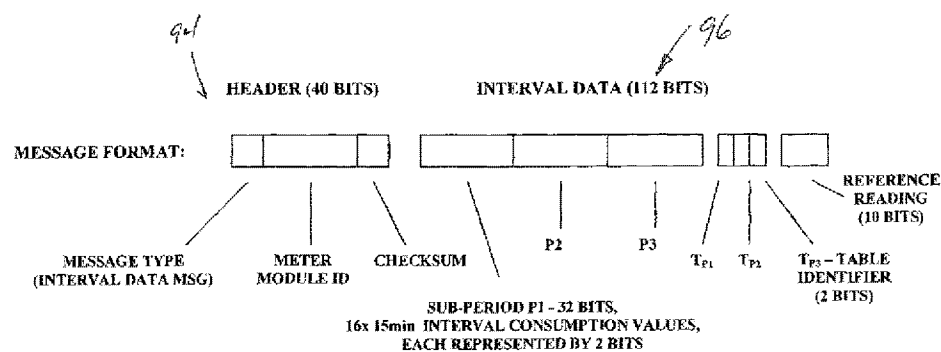
9

Claim Chart: U.S. Patent 5,388,101

FIG 7

Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.

The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols.   Plaintiff reserves

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Claim Chart: U.S. Patent 5,388,101

	the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
base station reception means for receiving and processing data messages from the set of local subscriber units at that base station comprising a set of cell subdivision sites partitioned from said base station geographic area and dispersed over the base station geographic area, each cell subdivision site being adapted for receiving-only low power digital messages transmitted from local subscriber units within range of the partitioned cell site areas, and	"Each receiver Base Station 02 is able to receive and decode DSSS encoded signals (air messages) generated by the meter modules. The bandwidth of the DSSS signal is approximately 2 MHz. Base Stations 02 can be optimized to receive signals in any radio frequency range between 800 MHz and 1 GHz, including the 902 928 MHz Industrial, Scientific, and Medical (ISM) band allocated by the FCC for unlicensed use. In a preferred embodiment, the data collection network operates in the ISM band under the rules for unlicensed operation (Part 15 of the FCC Rules), and requires no licensing for any portion of its wireless uplink channel."[12]

Claim Chart: U.S. Patent 5,388,101

"The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[13]
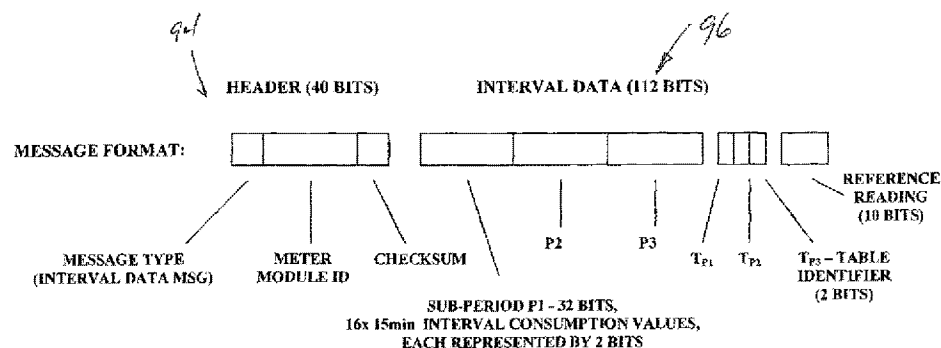

FIG 7

"The Tower Gateway Base Station (TGB) is a one-way application and receives transmission from the FlexNet SmartPoint in predetermined intervals. TGB's are strategically located within an area to insure coverage requirements are achieved. The SmartPoint units can be housed on typical communications towers and/or on a utility's property should they meet the criteria for installation. Once the data is received at the TGB, the information is then forwarded to the Regional Network Interface (RNI) typically located at the utility."[14]

"The features incorporated in the TGB provide the industry's most reliable data collection system. Incorporated in the design, the system provides assurance that data will not be lost and can also be held for extended periods of time. One of the primary features of the TGB is its ability to store thirty (30) days worth of data. This feature provides the ability for the end user to access the tower should an extended outage occur. The TGB also incorporates other alternative communication methods in the chance that the primary communication link is disabled. In addition, the TGB provides an eight (8) hour battery backup in case the primary source of power is interrupted. In the case of multiple TGB sites in the coverage area, neighboring TGBs can accept and process data if required."[15]
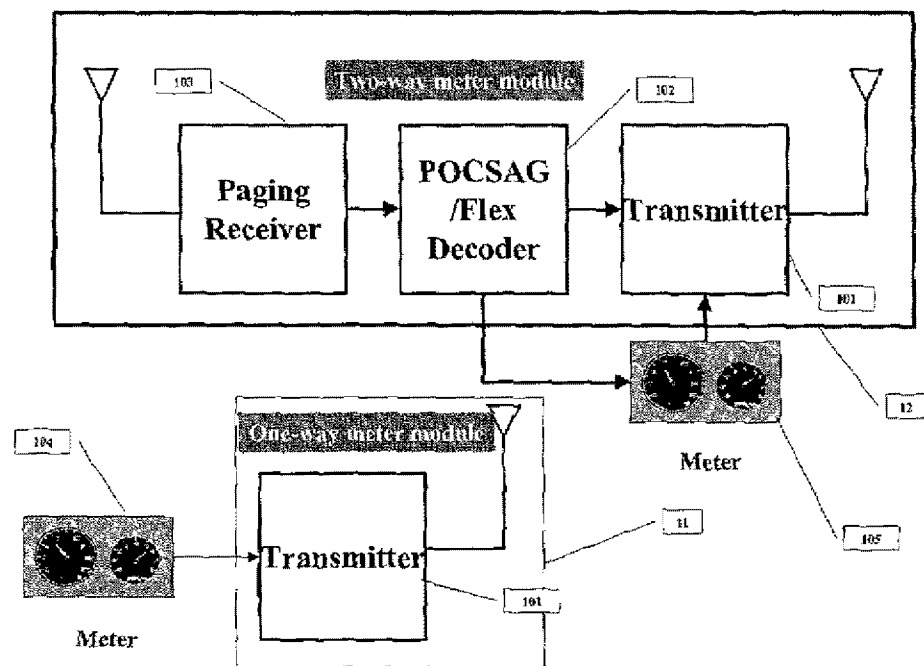
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Claim Chart: U.S. Patent 5,388,101

	"The FlexNet Network Portal (FNP) is an optional receive and transmit unit that provides simple store and forward messaging from Sensus FlexNet SmartPoints. Units are strategically placed after the complete deployment of FlexNet Tower Gateway Base Stations (TGB). Once areas within a network have been identified to have little or no coverage, the FNP provides an economical solution within an existing network. Messages are collected at the FNP and transmitted to the TGB over a primary licensed frequency to assure that coverage is provided within a designated service territory. Operation: The FNP operates within a deployed network to assure that messages are received at the Regional Network Interface (RNI). The FNP typically can support up to four hundred (400) FlexNet SmartPoints within a serviceable range of an installed network. RF transmissions on the Sensus primary licensed frequency allow the FNP to receive and transmit messages from Sensus FlexNet SmartPoints to the TGB. By incorporating RF transmission as the backhaul communications method, the utility has greater flexibility in installation options. Numerous locations such as light poles, buildings or existing utility structures with access to AC power (110-240 VAC) provide excellent locations for FNP installations. Flexible antenna options can be utilized to maximize performance. The FNP incorporates a battery back up power source should a power outage occur which allows for seamless operation."[16] "Level 2: Space diversity is implemented to adjust network capacity, by controlling the amount of Base Stations used in order to provide coverage to specified meter population and metering data application in a specified geographical area. The initial phase of planning network coverage includes optimal selection of the number and locations of Base Stations to be deployed in the specified area. When a Base Station covers a large area and the meter module density or air message frequency requirements continuously increase, at some stage the farthest meter modules would endure interference from the closer meter modules, and message reception probability from the farthest meter modules will decrease. Base Stations may be added at appropriate locations in the same geographic area, in order to increase network capacity and message reception rate. Adding Base Stations reduces the effective range between each meter module to be deployed and the Base Station closest to it, so that more meter modules or potential meter module locations are within a range of high air-message reception probability. Thus, the placement of additional Base Stations in the same geographic area, without any other change in the network or the meter modules, will in itself increase overall network capacity."[17] Additional information disclosing this claim element can be found in "Sensus FlexNet

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Claim Chart: U.S. Patent 5,388,101

	Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
a set of local subscriber transceiver units including low power mobile units located within the base station geographic area each adapted to communicate with said base station by way of digital data signals of variable lengths synchronously related to said base station broadcast signal and timed for said multiplexed message transmission.	"A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below."[18]

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Claim Chart: U.S. Patent 5,388,101

"In a particular embodiment, the transmitted power is one watt, for a duration of 150 msec and with a recharge time of 90 seconds."[19]

"The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[20]
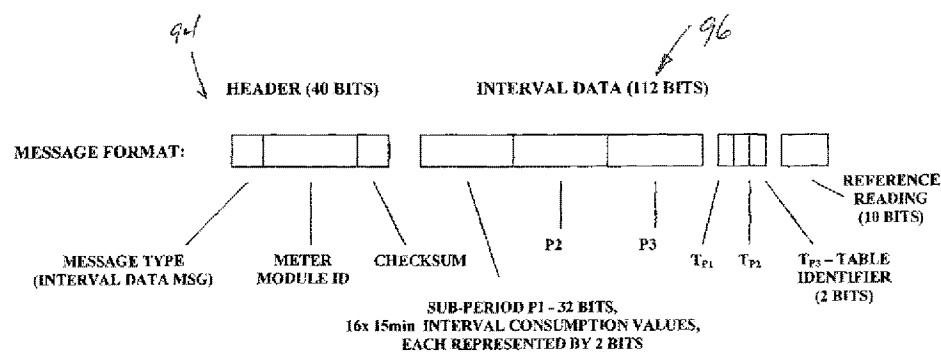
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Claim Chart: U.S. Patent 5,388,101

FIG 7

"In order to provide a high level of redundancy of interval consumption data, another data encoding method is provided, referred to as interval consumption data "interleaving air message encoding", which splits interval consumption values between separate messages. In a particular embodiment, depicted graphically in FIGS. 9A 9C, and in FIG. 11, three separate interval consumption data air messages 130, 132 and 134, are transmitted that relate to the same consumption period b-a. The first air message includes samples taken at times a, a+x, a+2x, . . . and is transmitted at time b. The second air message includes samples taken at times a+x/3, a+4x/3, a+7x/3, . . . b+x/3, and is transmitted at time b+x/3. The third air message includes samples taken at times a+2x/3, a+5.times.13, a+8.times./3, b+2.times./3, and is transmitted at time b+2x/3, as illustrated at block 136 in FIG. 11. More generally, in order to spread transmissions during the day, the offset between interval data arrays may be x/3+Nx, where N is an integer."[21]

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Claim Chart: U.S. Patent 5,388,101

FIG 7

"Sensus FlexNet SmartPoint model 520X is a pit set radio signal device which permits off site meter reading via licensed radio signal in a pit set or vault environment. The model 520 is designed to maximize performance in an RF environment. In order to achieve maximum performance, the model 520 must be installed through the pit lid. The FlexNet SmartPoint interfaces with any compatible absolute encoder equipped utility meter and operates in conjunction with a Sensus FlexNet system. The Sensus FlexNet System eliminates a number of meter reading problems such as lockouts, curbside reading estimates, estimated bills and errors associated with manual meter reading methods. The FlexNet SmartPoint is available in one and two port models. This feature provides enhanced cost effective AMI where multiple meter installations exist."[22]

"USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides

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Claim Chart: U.S. Patent 5,388,101

| | Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[23]

"The FlexNet system's two-way features include demand reads, kWh and actual voltage, and programmable read interval, low-voltage and breaker re-closure warnings, power fail alarm, and meter functions that are accessible from the Internet. Additional benefits include remote meter disconnect/reconnect, 15-minute demand resets, real-time clock calibration for top-of-the-hour reads, TOU billing and consumption correlation, energy management programs, text and rate change notification, load shed and restore, and real-time data for management and billing. The FlexNet system also has gas and water modules for combo utility applications. "Patented AMDS Connect wireless network architecture coupled with the latest generation of Sensus iCon meters has already been demonstrated to be a winning combination in several utility operating environments, including some of the most varied and unforgiving terrains in the country," added Britton Sanderford, President and CEO of AMDS. "The FlexNet system builds on that foundation to provide the most accurate and reliable meter reading system available in today's electric utility industry," Sanderford concluded.""[24]

"The FlexNet system fully supports the download of new, executable software to all elements of the network including the endpoints. Changes to software and set points is acknowledged and reported to the data collection system. Additionally, the current settings for all endpoints are periodically sent to the data collection system autonomously. The control system for meter executable modification is now being developed to allow for scheduling, as well as interruption and resumption of processing. As each module receives the new code it verifies that it has the complete set and if not requests the individual blocks that are missing. Once the code has been fully downloaded to the devices they are verified and marked as ready. The endpoints then await a switch over command before switching to the new set of code. The old code remains in place until the next generation of code is sent to the module."[25]

Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR |
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Claim Chart: U.S. Patent 5,388,101

<table>
<tr>
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<td>326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.

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</tr>
</table>

Claim Language	Accused System
Claim 2	Sensus FlexNet and compatible equipment
2. The base station configuration defined in claim 1 wherein said hub switching center is located remotely from said base station, and said network comprises a plurality of base stations located in different geographic areas, further comprising,	"The DOC may be constructed, according to the application requirements to operate in a High Availability (HA) configuration, that is two computer platforms having the capability to transfer all processing and communication tasks and parameters instantaneously from one to the other in the event of a failure of one of the platforms. In addition, the DOC may be configured, according to the application requirements, to communicate with a computer platform at a remote mirror site and periodically transfer the required data in order to maintain Disaster Recovery (DR) capability at the remote mirror site."[26]

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
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	"The Regional Network Interface (RNI) is the data storage and processing center for the Sensus FlexNet system. One of the primary functions of the RNI is to receive and store data forwarded from the Tower Gateway Basestation (TGB). Once the data is received at the RNI, the utility can then use the data to assist them in improving efficiency throughout the utility. A major feature of the RNI is that it was designed to operate with standalone water or gas services and is also capable of operating in a combination utility environment that consists of water, gas and electric services. The RNI provides the necessary application to maximize the benefits of data collection."[27] "Level 2: Space diversity is implemented to adjust network capacity, by controlling the amount of Base Stations used in order to provide coverage to specified meter population and metering data application in a specified geographical area. The initial phase of planning

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	network coverage includes optimal selection of the number and locations of Base Stations to be deployed in the specified area. When a Base Station covers a large area and the meter module density or air message frequency requirements continuously increase, at some stage the farthest meter modules would endure interference from the closer meter modules, and message reception probability from the farthest meter modules will decrease. Base Stations may be added at appropriate locations in the same geographic area, in order to increase network capacity and message reception rate. Adding Base Stations reduces the effective range between each meter module to be deployed and the Base Station closest to it, so that more meter modules or potential meter module locations are within a range of high air-message reception probability. Thus, the placement of additional Base Stations in the same geographic area, without any other change in the network or the meter modules, will in itself increase overall network capacity."[28] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 2	Sensus FlexNet and compatible equipment
	"'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
data processing facilities in said base station and network for communicating designated digital data messages between local subscriber units in said predetermined base station geographic area and other subscriber units located in the vicinity of the base stations located in different geographic areas via said hub switching center.	"According to a particular embodiment, in some cases, a cost-efficient means for expanding network coverage is adding Network Transceiver/Repeater devices (NTR) in order to provide coverage for meter modules experiencing poor or no Base Station coverage. This means provides more flexibility to the network operator by creating another option for providing coverage to a limited geographic area. NTR cost of deployment and maintenance is significantly lower than that of a Base Station. Therefore, besides being a cost effective solution to poor coverage, it also may cost justify the enhancement of a network's coverage to areas of low population density, thus extending the reach of its automated metering data collection system. The deployment of NTR devices does not require the network operator to perform any changes in any of the other elements of the network infrastructure."[29] "Although several advanced metering applications, such as demand and TOU metering, are available from a one-way metering data collection network, two-way meter modules operating in the described two-way metering data network are capable of providing additional features, including: accurate interval consumption data measurement enabled by a regularly synchronized real-time clock, on-demand meter reading, remote disconnect and reconnect, remote programming of meter parameters and remote notification of rate changes or other messages. The particular embodiment of the described two-way data network enables the operator to mix on the same network, in a cost efficient manner, low cost transmitters, which provide a wide range of metering data collection features, and higher cost transceivers, which further enhance metering data application features, while maintaining the core advantages of sparse infrastructure and the low cost associated with unlicensed operation of the metering data collection branch of the network."[30] "The DOC 01 consists of a database of all the meter modules in the network and an Internet

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 2	Sensus FlexNet and compatible equipment
	server for accessing the database. This embodiment also enables the DOC to provide alerts and event notification services via email, fax, pager devices and voice message generators. The DOC may be programmed to forward data directly to a user or to export files to a buffer directory by using standard data protocols."[31] "The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[32] "The FlexNet Network Portal (FNP) is an optional receive and transmit unit that provides simple store and forward messaging from Sensus FlexNet SmartPoints. Units are strategically placed after the complete deployment of FlexNet Tower Gateway Base Stations (TGB). Once areas within a network have been identified to have little or no coverage, the FNP provides an economical solution within an existing network. Messages are collected at the FNP and transmitted to the TGB over a primary licensed frequency to assure that coverage is provided within a designated service territory. Operation: The FNP operates within a deployed network to assure that messages are received at the Regional Network Interface (RNI). The FNP typically can support up to four hundred (400) FlexNet SmartPoints within a serviceable range of an installed network. RF transmissions on the Sensus primary licensed frequency allow the FNP to receive and transmit messages from

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 2	Sensus FlexNet and compatible equipment
	Sensus FlexNet SmartPoints to the TGB. By incorporating RF transmission as the backhaul communications method, the utility has greater flexibility in installation options. Numerous locations such as light poles, buildings or existing utility structures with access to AC power (110-240 VAC) provide excellent locations for FNP installations. Flexible antenna options can be utilized to maximize performance. The FNP incorporates a battery back up power source should a power outage occur which allows for seamless operation."[33] "Level 2: Space diversity is implemented to adjust network capacity, by controlling the amount of Base Stations used in order to provide coverage to specified meter population and metering data application in a specified geographical area. The initial phase of planning network coverage includes optimal selection of the number and locations of Base Stations to be deployed in the specified area. When a Base Station covers a large area and the meter module density or air message frequency requirements continuously increase, at some stage the farthest meter modules would endure interference from the closer meter modules, and message reception probability from the farthest meter modules will decrease. Base Stations may be added at appropriate locations in the same geographic area, in order to increase network capacity and message reception rate. Adding Base Stations reduces the effective range between each meter module to be deployed and the Base Station closest to it, so that more meter modules or potential meter module locations are within a range of high air-message reception probability. Thus, the placement of additional Base Stations in the same geographic area, without any other change in the network or the meter modules, will in itself increase overall network capacity."[34] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 2	Sensus FlexNet and compatible equipment
	000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

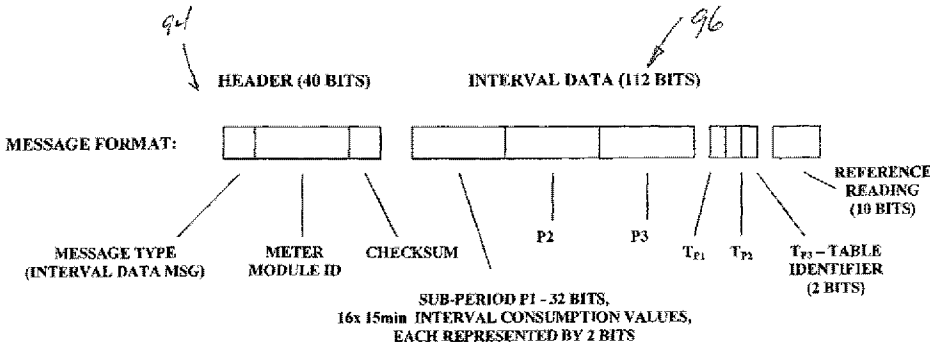| Claim Language	Accused System
Claim 3	Sensus FlexNet and compatible equipment
3. The configuration of claim 2 further comprising, message accumulation means in said base station data processing facilities operative to store and retransmit digital message packets from identified subscriber units comprising a sequence of subscriber transmission frames, and	"Metering data messages are collected by a network of receiver Base Stations. The reception range of each Base Station is typically over 5 miles in urban areas, allowing sparse infrastructure deployment for a wide variety of metering data collection applications."[35] "The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[36] "USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 3	Sensus FlexNet and compatible equipment
	Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[37] "The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[38] FIG 7 Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS

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Claim Chart: U.S. Patent 5,388,101

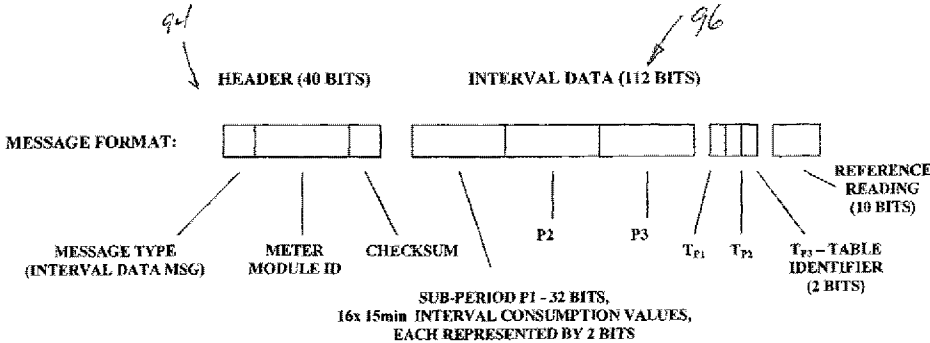| Claim Language	Accused System
Claim 3	Sensus FlexNet and compatible equipment
	000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
processing means for retransmission of the digital message packets to the hub switching center by satellite.	"Other communication means between the DOC and the Base Stations may be a wireless cellular network, CDPD, PSTN and satellite data network."[39] "The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[40]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 3	Sensus FlexNet and compatible equipment
	  "The Regional Network Interface (RNI) is the data storage and processing center for the Sensus FlexNet system. One of the primary functions of the RNI is to receive and store data forwarded from the Tower Gateway Basestation (TGB). Once the data is received at the RNI, the utility can then use the data to assist them in improving efficiency throughout the utility. A major feature of the RNI is that it was designed to operate with standalone water or gas services and is also capable of operating in a combination utility environment that consists of water, gas and electric services. The RNI provides the necessary application to maximize the benefits of data collection."[41] "What types of communication options are available for sending information from the TGB back to the Regional Network Interface (RNI)? A network connection supporting TCP/IP (internet protocol) packet data communication is required at the site. Examples for suitable communications service types are Frame Relay, cable internet, DSL internet, AFAR Wireless Bridge, or dedicated line (point-to-point)."[42] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 3	Sensus FlexNet and compatible equipment
	000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

Claim Language	Accused System
Claim 4	Sensus FlexNet and compatible equipment
4. The configuration of claim 2 further comprising, subscriber unit management and transmission means for conveying messages from the base station to	"The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[43]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 4	Sensus FlexNet and compatible equipment
the hub switching center which processes a subscriber message data bit output from the base station at 2.560 kbaud.	 "Each receiver Base Station 02 is able to receive and decode DSSS encoded signals (air messages) generated by the meter modules. The bandwidth of the DSSS signal is approximately 2 MHz. Base Stations 02 can be optimized to receive signals in any radio frequency range between 800 MHz and 1 GHz, including the 902 928 MHz Industrial, Scientific, and Medical (ISM) band allocated by the FCC for unlicensed use. In a preferred embodiment, the data collection network operates in the ISM band under the rules for unlicensed operation (Part 15 of the FCC Rules), and requires no licensing for any portion of its wireless uplink channel."[44] "The Regional Network Interface (RNI) is the data storage and processing center for the Sensus FlexNet system. One of the primary functions of the RNI is to receive and store data forwarded from the Tower Gateway Basestation (TGB). Once the data is received at the RNI, the utility can then use the data to assist them in improving efficiency throughout the utility. A major feature of the RNI is that it was designed to operate with standalone water or gas services and is also capable of operating in a combination utility environment that consists of water, gas and electric services. The RNI provides the necessary application to maximize the benefits of data collection."[45]

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 4	Sensus FlexNet and compatible equipment
	"In order to provide a high level of redundancy of interval consumption data, another data encoding method is provided, referred to as interval consumption data "interleaving air message encoding", which splits interval consumption values between separate messages. In a particular embodiment, depicted graphically in FIGS. 9A 9C, and in FIG. 11, three separate interval consumption data air messages 130, 132 and 134, are transmitted that relate to the same consumption period b-a. The first air message includes samples taken at times a, a+x, a+2x, . . . and is transmitted at time b. The second air message includes samples taken at times a+x/3, a+4x/3, a+7x/3, . . . b+x/3, and is transmitted at time b+x/3. The third air message includes samples taken at times a+2x/3, a+5.times.13, a+8.times./3, b+2.times./3, and is transmitted at time b+2x/3, as illustrated at block 136 in FIG. 11. More generally, in order to spread transmissions during the day, the offset between interval data arrays may be x/3+Nx, where N is an integer."[46]

FlexNet and compatible equipment infringes this claim at least under the doctrine of equivalents, as they perform substantially the same function in substantially the same way to achieve substantially the same result. Furthermore, discovery in this case is ongoing, and Plaintiff reserves the right to assert literal infringement if proprietary and non-public documentation discloses that this claim is literally infringed.

Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 4	Sensus FlexNet and compatible equipment
	Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

Claim Language	Accused System
Claim 5	Sensus FlexNet and compatible equipment
5. The configuration of claim 4 further comprising a set of n isolated said cell sites, and assembling means for accumulating the messages from said n cell sites and transmitting the accumulated messages over said transmission means at a message data bit capacity of n times 2.560 kbaud.	"The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[47]

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 5	Sensus FlexNet and compatible equipment

FIG 7

"Each receiver Base Station 02 is able to receive and decode DSSS encoded signals (air messages) generated by the meter modules. The bandwidth of the DSSS signal is approximately 2 MHz. Base Stations 02 can be optimized to receive signals in any radio frequency range between 800 MHz and 1 GHz, including the 902 928 MHz Industrial, Scientific, and Medical (ISM) band allocated by the FCC for unlicensed use. In a preferred embodiment, the data collection network operates in the ISM band under the rules for unlicensed operation (Part 15 of the FCC Rules), and requires no licensing for any portion of its wireless uplink channel."[48]

"In order to provide a high level of redundancy of interval consumption data, another data encoding method is provided, referred to as interval consumption data "interleaving air message encoding", which splits interval consumption values between separate messages. In a particular embodiment, depicted graphically in FIGS. 9A 9C, and in FIG. 11, three separate interval consumption data air messages 130, 132 and 134, are transmitted that relate to the same consumption period b-a. The first air message includes samples taken at times a, a+x, a+2x, . . . and is transmitted at time b. The second air message includes samples taken at times a+x/3, a+4x/3, a+7x/3, . . . b+x/3, and is transmitted at time b+x/3. The third air message includes samples taken at times a+2x/3, a+5.times.13, a+8.times./3, b+2.times./3, and is transmitted at time b+2x/3, as illustrated at block 136 in FIG. 11. More generally, in

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 5	Sensus FlexNet and compatible equipment
	order to spread transmissions during the day, the offset between interval data arrays may be x/3+Nx, where N is an integer."[49] FlexNet and compatible equipment infringes this claim at least under the doctrine of equivalents, as they perform substantially the same function in substantially the same way to achieve substantially the same result. Furthermore, discovery in this case is ongoing, and Plaintiff reserves the right to assert literal infringement if proprietary and non-public documentation discloses that this claim is literally infringed. Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 5	Sensus FlexNet and compatible equipment
	by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

Claim Language	Accused System
Claim 6	Sensus FlexNet and compatible equipment
6. The configuration of claim 5 further comprising means for interlacing 64 subscriber units for transmitting simultaneously multiplexed messages at said base station.	"The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[50] "Each receiver Base Station 02 is able to receive and decode DSSS encoded signals (air messages) generated by the meter modules. The bandwidth of the DSSS signal is approximately 2 MHz. Base Stations 02 can be optimized to receive signals in any radio frequency range between 800 MHz and 1 GHz, including the 902 928 MHz Industrial, Scientific, and Medical (ISM) band allocated by the FCC for unlicensed use. In a preferred embodiment, the data collection network operates in the ISM band under the rules for unlicensed operation (Part 15 of the FCC Rules), and requires no licensing for any portion of its wireless uplink channel."[51]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 6	Sensus FlexNet and compatible equipment
	"In order to provide a high level of redundancy of interval consumption data, another data encoding method is provided, referred to as interval consumption data "interleaving air message encoding", which splits interval consumption values between separate messages. In a particular embodiment, depicted graphically in FIGS. 9A 9C, and in FIG. 11, three separate interval consumption data air messages 130, 132 and 134, are transmitted that relate to the same consumption period b-a. The first air message includes samples taken at times a, a+x, a+2x, . . . and is transmitted at time b. The second air message includes samples taken at times a+x/3, a+4x/3, a+7x/3, . . . b+x/3, and is transmitted at time b+x/3. The third air message includes samples taken at times a+2x/3, a+5.times.13, a+8.times./3, b+2.times./3, and is transmitted at time b+2x/3, as illustrated at block 136 in FIG. 11. More generally, in order to spread transmissions during the day, the offset between interval data arrays may be x/3+Nx, where N is an integer."[52] FlexNet and compatible equipment infringes this claim at least under the doctrine of equivalents, as they perform substantially the same function in substantially the same way to achieve substantially the same result. Furthermore, discovery in this case is ongoing, and Plaintiff reserves the right to assert literal infringement if proprietary and non-public documentation discloses that this claim is literally infringed. Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 6	Sensus FlexNet and compatible equipment
	Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

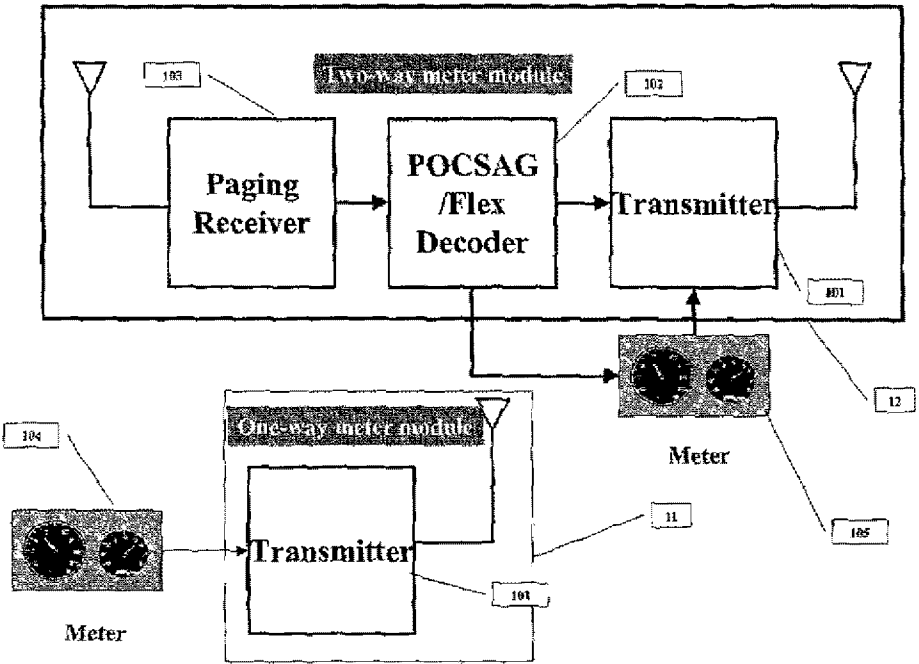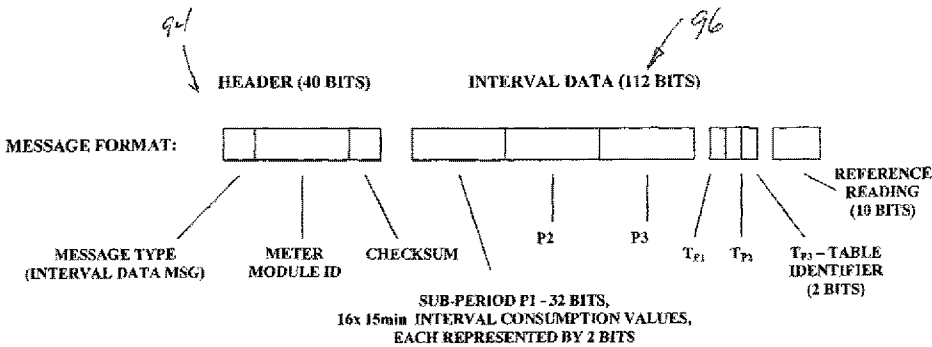| Claim Language	Accused System
Claim 8	Sensus FlexNet and compatible equipment
8. The configuration of claim 2 further comprising means for transmitting messages from the different subdivided cell areas on different carrier frequencies.	"Each receiver Base Station 02 is able to receive and decode DSSS encoded signals (air messages) generated by the meter modules. The bandwidth of the DSSS signal is approximately 2 MHz. Base Stations 02 can be optimized to receive signals in any radio frequency range between 800 MHz and 1 GHz, including the 902 928 MHz Industrial, Scientific, and Medical (ISM) band allocated by the FCC for unlicensed use. In a preferred embodiment, the data collection network operates in the ISM band under the rules for unlicensed operation (Part 15 of the FCC Rules), and requires no licensing for any portion of its wireless uplink channel."[53] "The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[54]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 8	Sensus FlexNet and compatible equipment

FIG 7

Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.

The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 8	Sensus FlexNet and compatible equipment
	regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

Claim Language	Accused System
Claim 9	Sensus FlexNet and compatible equipment
9. The base station configuration defined in claim 1 further comprising, means in said base unit for compensating for the time of propagation of messages between the different individual subscriber units and the base station data processing facilities.	"Level 5 (highest level of air-message capacity): In a one-way data collection network, an additional, higher level of capacity may be reached by adding a downlink channel and deploying transceivers rather than transmitter meter modules. A two-way system has the inherent potential to be more efficient with radio airtime resource, since field units may be synchronized to a central clock, allowing transmission according to allocated time slots. The higher the rate of two-way meter modules in the metered population, the higher the capacity increase provided by adding the downlink channel. The wireless data collection network described above may be scaled up from one-way (data collection only) to two-way by connecting the DOC to a wireless downlink channel in a modular way as described above. In addition, the measures described in levels 2 to 4 above may be implemented in a two-way network as well in order to further increase network capacity."[55] "A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 9	Sensus FlexNet and compatible equipment
	depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below."[56] Two-way meter module — Paging Receiver → POCSAG /Flex Decoder → Transmitter — One-way meter module — Transmitter — Meter "The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[57]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 9	Sensus FlexNet and compatible equipment
	Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 9	Sensus FlexNet and compatible equipment
	"'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

Claim Language	Accused System
Claim 10	Sensus FlexNet and compatible equipment
10. The base station configuration defined in claim 1 further comprising a transmitter for conveying messages from said base station to said subscriber units on a carrier frequency of substantially 218 MHz.	"The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[58] FlexNet and compatible equipment infringes this claim at least under the doctrine of equivalents, as they perform substantially the same function in substantially the same way to achieve substantially the same result. Furthermore, discovery in this case is ongoing, and

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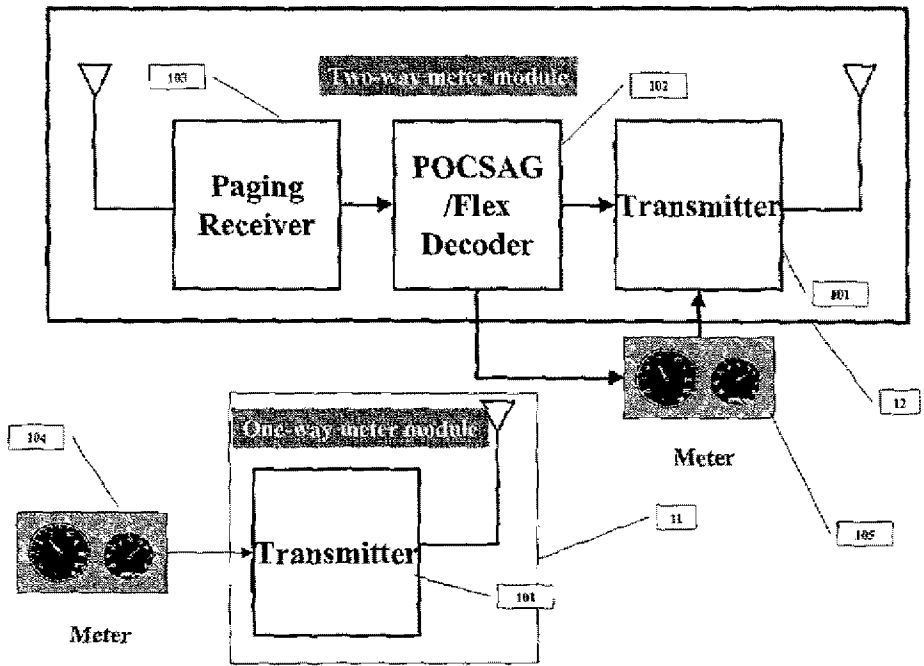
Claim Chart: U.S. Patent 5,388,101

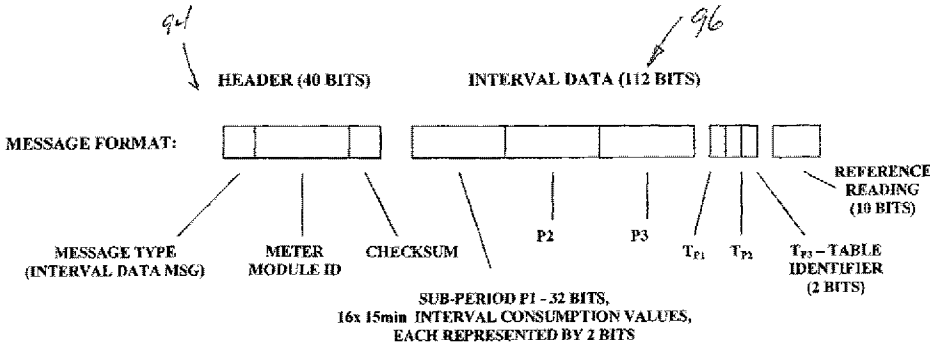| Claim Language	Accused System
Claim 10	Sensus FlexNet and compatible equipment
	Plaintiff reserves the right to assert literal infringement if proprietary and non-public documentation discloses that this claim is literally infringed. Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 12	Sensus FlexNet and compatible equipment
12. The base station configuration in claim 1 wherein said local subscriber units comprise digital message organization means that disassembles a variable length digital message for transmission on a sequence of fixed length transmission frames.	"Level 5 (highest level of air-message capacity): In a one-way data collection network, an additional, higher level of capacity may be reached by adding a downlink channel and deploying transceivers rather than transmitter meter modules. A two-way system has the inherent potential to be more efficient with radio airtime resource, since field units may be synchronized to a central clock, allowing transmission according to allocated time slots. The higher the rate of two-way meter modules in the metered population, the higher the capacity increase provided by adding the downlink channel. The wireless data collection network described above may be scaled up from one-way (data collection only) to two-way by connecting the DOC to a wireless downlink channel in a modular way as described above. In addition, the measures described in levels 2 to 4 above may be implemented in a two-way network as well in order to further increase network capacity."[59]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 12	Sensus FlexNet and compatible equipment
	"The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[60]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 12	Sensus FlexNet and compatible equipment

FIG 7

Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.

The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 12	Sensus FlexNet and compatible equipment
	"'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

Claim Language	Accused System
Claim 14	Sensus FlexNet and compatible equipment
14. The base station configuration in claim 13 further comprising subscriber units operable to transmit on a plurality of frequency bands, and receive-only receivers at different subdivision sites operable in different ones of said frequency bands.	"Each receiver Base Station 02 is able to receive and decode DSSS encoded signals (air messages) generated by the meter modules. The bandwidth of the DSSS signal is approximately 2 MHz. Base Stations 02 can be optimized to receive signals in any radio frequency range between 800 MHz and 1 GHz, including the 902 928 MHz Industrial, Scientific, and Medical (ISM) band allocated by the FCC for unlicensed use. In a preferred embodiment, the data collection network operates in the ISM band under the rules for unlicensed operation (Part 15 of the FCC Rules), and requires no licensing for any portion of its wireless uplink channel."[61] "Level 3: Frequency diversity is implemented by utilizing more than one uplink frequency channel within a coverage area. Meter modules may be programmed to alter their transmission frequency channel each air message transmission. In addition, a Base Station may consist of several receivers in multiple frequency channels, thus significantly increasing the Base Station's air message reception capacity. Frequency diversity may thus eliminate or postpone coverage problems, which would otherwise require adding Base Station sites. In addition, frequency diversity may be combined with space diversity by feeding receivers operating in different uplink frequency channels at the same Base Stations with signals from separate antennas. In the 902 928 MHz unlicensed ISM band, a particular embodiment of the

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 14	Sensus FlexNet and compatible equipment
	network may operate in up to 57 channels, spaced 400 kHz apart, but a more practical limit for reliable operation would be about 10 channels. Each new frequency channel receiver added, increases the Base Station's capacity. When performed on a regional Base Station network, adding channels significantly increases the entire network's capacity."[62] "Sensus FlexNet SmartPoint model 520X is a pit set radio signal device which permits off site meter reading via licensed radio signal in a pit set or vault environment. The model 520 is designed to maximize performance in an RF environment. In order to achieve maximum performance, the model 520 must be installed through the pit lid. The FlexNet SmartPoint interfaces with any compatible absolute encoder equipped utility meter and operates in conjunction with a Sensus FlexNet system. The Sensus FlexNet System eliminates a number of meter reading problems such as lockouts, curbside reading estimates, estimated bills and errors associated with manual meter reading methods. The FlexNet SmartPoint is available in one and two port models. This feature provides enhanced cost effective AMI where multiple meter installations exist."[63] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 14	Sensus FlexNet and compatible equipment
	The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
16. A point-to-point interactive video network system having a central switching station, a plurality of base stations, a satellite station, and a set of subscriber units located in the vicinity of each base unit, comprising in combination,	"The Sensus FlexNet System is a wide area Advanced Metering Infrastructure (AMI) system that provides the ability to read water, gas and electric meters with a common AMI platform. The FlexNet system is designed around the central concepts of Simplicity, Flexibility, and Reliability. The system supports one-way radio frequency (RF) transmission for water and gas meters, and offers two-way RF functionality for electric meters, including on-demand readings, remote disconnects/reconnects, and load shedding."[64]

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
	"The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[65] "USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
	Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[66] "The FlexNet system's two-way features include demand reads, kWh and actual voltage, and programmable read interval, low-voltage and breaker re-closure warnings, power fail alarm, and meter functions that are accessible from the Internet. Additional benefits include remote meter disconnect/reconnect, 15-minute demand resets, real-time clock calibration for top-of-the-hour reads, TOU billing and consumption correlation, energy management programs, text and rate change notification, load shed and restore, and real-time data for management and billing. The FlexNet system also has gas and water modules for combo utility applications. "Patented AMDS Connect wireless network architecture coupled with the latest generation of Sensus iCon meters has already been demonstrated to be a winning combination in several utility operating environments, including some of the most varied and unforgiving terrains in the country," added Britton Sanderford, President and CEO of AMDS. "The FlexNet system builds on that foundation to provide the most accurate and reliable meter reading system available in today's electric utility industry," Sanderford concluded.""[67] "Metering data messages are collected by a network of receiver Base Stations. The reception range of each Base Station is typically over 5 miles in urban areas, allowing sparse infrastructure deployment for a wide variety of metering data collection applications."[68] "According to a particular embodiment of the present invention, a one-way direct sequence spread spectrum (DSSS) communications network is used as the data collection channel (uplink) of an automatic meter reading (AMR) application and a paging network, or other suitable downlink network, is used as an optional forward (downlink) channel in a cost-effective manner."[69]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
	"A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below."[70]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment

"The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[71]

"Other communication means between the DOC and the Base Stations may be a wireless cellular network, CDPD, PSTN and satellite data network."[72]

Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
	Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
means for providing for two-way digital communications between two different subscriber units by a serial communication path extending through a base station, the satellite, the central station, the satellite and back to a base station, wherein at least some of said base stations serve a set of subscriber units dispersed	"The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[73]

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
over a predetermined geographic area and comprise communication means between the subscriber units with the base station including a set of stationary receive only terminals remote from the base station coupled by a communication link with the base station for conveying transmitted messages from subscriber units in a subdivided portion of said geographic area in the vicinity of the receive only terminals to the base station,	"USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
	North America where the AMR fixed network receivers will be installed."[74]
	"Metering data messages are collected by a network of receiver Base Stations. The reception range of each Base Station is typically over 5 miles in urban areas, allowing sparse infrastructure deployment for a wide variety of metering data collection applications."[75]
	"According to a particular embodiment of the present invention, a one-way direct sequence spread spectrum (DSSS) communications network is used as the data collection channel (uplink) of an automatic meter reading (AMR) application and a paging network, or other suitable downlink network, is used as an optional forward (downlink) channel in a cost-effective manner."[76]
	"A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below."[77]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
	  "The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[78] "Other communication means between the DOC and the Base Stations may be a wireless cellular network, CDPD, PSTN and satellite data network."[79] "The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
	includes the data itself, as indicated at 96."[80] FIG 7 "The Tower Gateway Base Station (TGB) is a one-way application and receives transmission from the FlexNet SmartPoint in predetermined intervals. TGB's are strategically located within an area to insure coverage requirements are achieved. The SmartPoint units can be housed on typical communications towers and/or on a utility's property should they meet the criteria for installation. Once the data is received at the TGB, the information is then forwarded to the Regional Network Interface (RNI) typically located at the utility."[81] "The features incorporated in the TGB provide the industry's most reliable data collection system. Incorporated in the design, the system provides assurance that data will not be lost and can also be held for extended periods of time. One of the primary features of the TGB is its ability to store thirty (30) days worth of data. This feature provides the ability for the end user to access the tower should an extended outage occur. The TGB also incorporates other alternative communication methods in the chance that the primary communication link is disabled. In addition, the TGB provides an eight (8) hour battery backup in case the primary source of power is interrupted. In the case of multiple TGB sites in the coverage area, neighboring TGBs can accept and process data if required."[82]

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Claim Chart: U.S. Patent 5,388,101

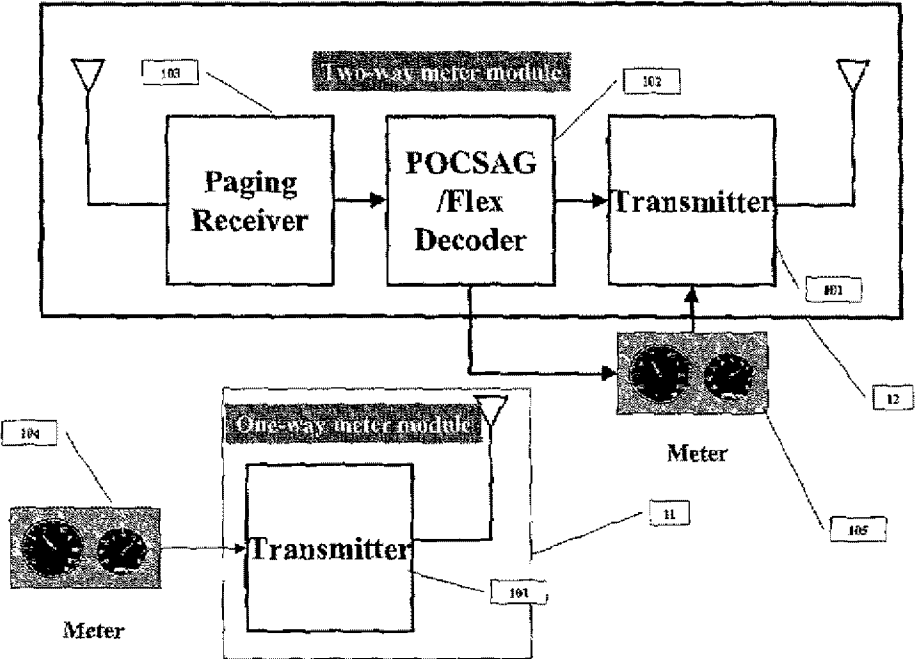| Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
	"What types of communication options are available for sending information from the TGB back to the Regional Network Interface (RNI)? A network connection supporting TCP/IP (internet protocol) packet data communication is required at the site. Examples for suitable communications service types are Frame Relay, cable internet, DSL internet, AFAR Wireless Bridge, or dedicated line (point-to-point)."[83] "The FlexNet Network Portal (FNP) is an optional receive and transmit unit that provides simple store and forward messaging from Sensus FlexNet SmartPoints. Units are strategically placed after the complete deployment of FlexNet Tower Gateway Base Stations (TGB). Once areas within a network have been identified to have little or no coverage, the FNP provides an economical solution within an existing network. Messages are collected at the FNP and transmitted to the TGB over a primary licensed frequency to assure that coverage is provided within a designated service territory. Operation: The FNP operates within a deployed network to assure that messages are received at the Regional Network Interface (RNI). The FNP typically can support up to four hundred (400) FlexNet SmartPoints within a serviceable range of an installed network. RF transmissions on the Sensus primary licensed frequency allow the FNP to receive and transmit messages from Sensus FlexNet SmartPoints to the TGB. By incorporating RF transmission as the backhaul communications method, the utility has greater flexibility in installation options. Numerous locations such as light poles, buildings or existing utility structures with access to AC power (110-240 VAC) provide excellent locations for FNP installations. Flexible antenna options can be utilized to maximize performance. The FNP incorporates a battery back up power source should a power outage occur which allows for seamless operation."[84] "Level 2: Space diversity is implemented to adjust network capacity, by controlling the amount of Base Stations used in order to provide coverage to specified meter population and metering data application in a specified geographical area. The initial phase of planning network coverage includes optimal selection of the number and locations of Base Stations to be deployed in the specified area. When a Base Station covers a large area and the meter module density or air message frequency requirements continuously increase, at some stage the farthest meter modules would endure interference from the closer meter modules, and message reception probability from the farthest meter modules will decrease. Base Stations may be added at appropriate locations in the same geographic area, in order to increase

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
	network capacity and message reception rate. Adding Base Stations reduces the effective range between each meter module to be deployed and the Base Station closest to it, so that more meter modules or potential meter module locations are within a range of high air-message reception probability. Thus, the placement of additional Base Stations in the same geographic area, without any other change in the network or the meter modules, will in itself increase overall network capacity."[85]

Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.

The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols.   Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications. |

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
subscriber transmitter units for transmitting digital amplitude modulated pulses at a peak power in the milliwatt range,	"A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below."[86] "USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[87]

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
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	"In a particular embodiment, the transmitted power is one watt, for a duration of 150 msec and with a recharge time of 90 seconds."[88] "Sensus FlexNet SmartPoint model 520X is a pit set radio signal device which permits off site meter reading via licensed radio signal in a pit set or vault environment. The model 520 is designed to maximize performance in an RF environment. In order to achieve maximum performance, the model 520 must be installed through the pit lid. The FlexNet SmartPoint interfaces with any compatible absolute encoder equipped utility meter and operates in conjunction with a Sensus FlexNet system. The Sensus FlexNet System eliminates a number of meter reading problems such as lockouts, curbside reading estimates, estimated bills and

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
	errors associated with manual meter reading methods. The FlexNet SmartPoint is available in one and two port models. This feature provides enhanced cost effective AMI where multiple meter installations exist."[89] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
and data processing means at the base station for assembling and re-transmitting digital subscriber	"Each receiver Base Station 02 is able to receive and decode DSSS encoded signals (air messages) generated by the meter modules. The bandwidth of the DSSS signal is approximately 2 MHz. Base Stations 02 can be optimized to receive signals in any radio

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
messages from the subscriber units via the satellite to the central station, said subscriber units transmitting on a plurality of frequency bands.	frequency range between 800 MHz and 1 GHz, including the 902 928 MHz Industrial, Scientific, and Medical (ISM) band allocated by the FCC for unlicensed use. In a preferred embodiment, the data collection network operates in the ISM band under the rules for unlicensed operation (Part 15 of the FCC Rules), and requires no licensing for any portion of its wireless uplink channel."[90] "Other communication means between the DOC and the Base Stations may be a wireless cellular network, CDPD, PSTN and satellite data network."[91] "The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[92] "USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[93] "Level 3: Frequency diversity is implemented by utilizing more than one uplink frequency channel within a coverage area. Meter modules may be programmed to alter their transmission frequency channel each air message transmission. In addition, a Base Station may consist of several receivers in multiple frequency channels, thus significantly increasing

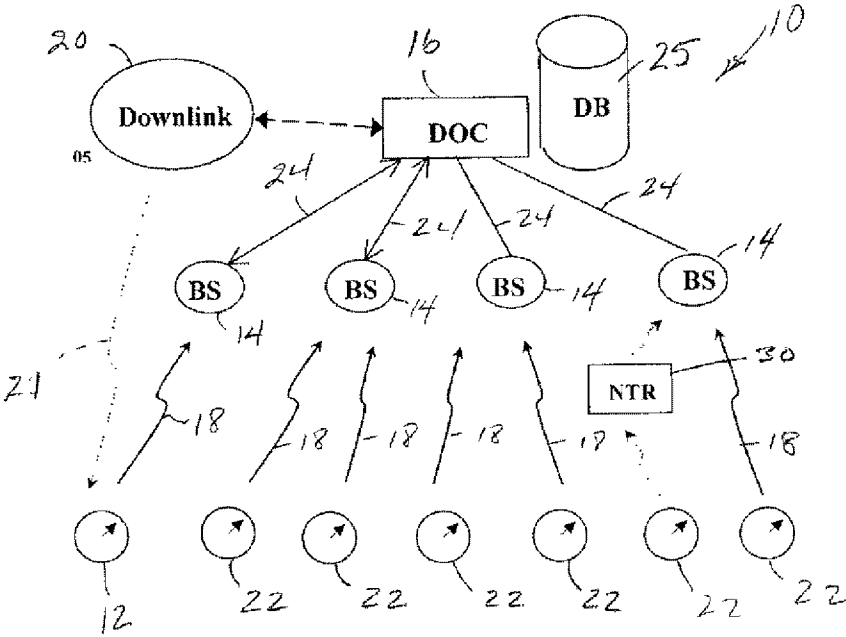## Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 16	Sensus FlexNet and compatible equipment
	the Base Station's air message reception capacity. Frequency diversity may thus eliminate or postpone coverage problems, which would otherwise require adding Base Station sites. In addition, frequency diversity may be combined with space diversity by feeding receivers operating in different uplink frequency channels at the same Base Stations with signals from separate antennas. In the 902 928 MHz unlicensed ISM band, a particular embodiment of the network may operate in up to 57 channels, spaced 400 kHz apart, but a more practical limit for reliable operation would be about 10 channels. Each new frequency channel receiver added, increases the Base Station's capacity. When performed on a regional Base Station network, adding channels significantly increases the entire network's capacity."[94] "The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[95] "What types of communication options are available for sending information from the TGB back to the Regional Network Interface (RNI)? A network connection supporting TCP/IP (internet protocol) packet data communication is required at the site. Examples for suitable communications service types are Frame Relay, cable internet, DSL internet, AFAR Wireless Bridge, or dedicated line (point-to-point)."[96]

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
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	Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
17. A point-to-point interactive video network system having a central switching station, a plurality of base	"The Sensus FlexNet System is a wide area Advanced Metering Infrastructure (AMI) system that provides the ability to read water, gas and electric meters with a common AMI platform. The FlexNet system is designed around the central concepts of Simplicity, Flexibility,

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
stations, a satellite station, and a set of subscriber units located in the vicinity of each base unit, comprising in combination,	and Reliability. The system supports one-way radio frequency (RF) transmission for water and gas meters, and offers two-way RF functionality for electric meters, including on-demand readings, remote disconnects/reconnects, and load shedding."[97] "The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[98] "Metering data messages are collected by a network of receiver Base Stations. The reception range of each Base Station is typically over 5 miles in urban areas, allowing sparse

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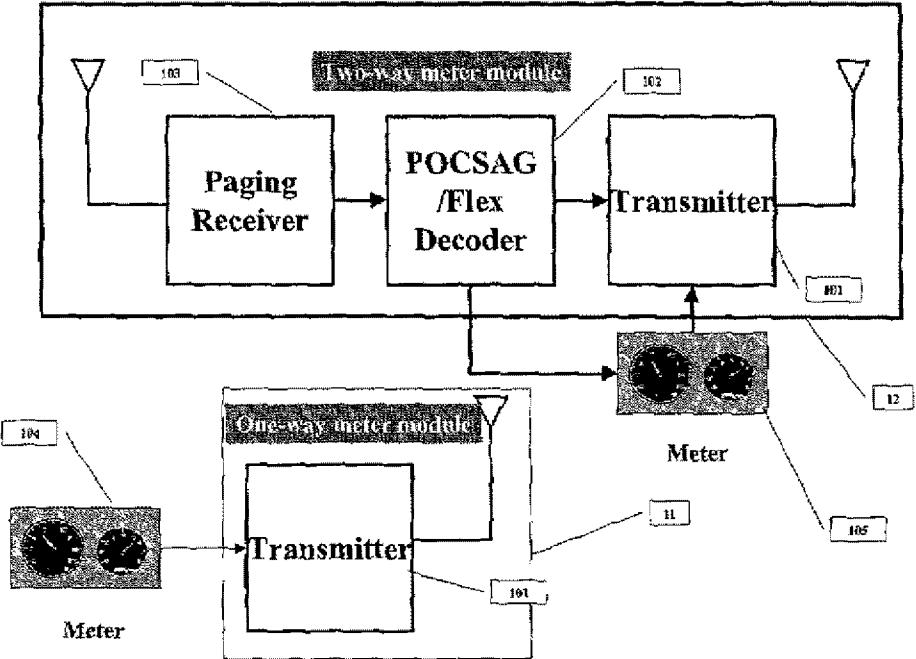
Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
	infrastructure deployment for a wide variety of metering data collection applications."[99]
	"According to a particular embodiment of the present invention, a one-way direct sequence spread spectrum (DSSS) communications network is used as the data collection channel (uplink) of an automatic meter reading (AMR) application and a paging network, or other suitable downlink network, is used as an optional forward (downlink) channel in a cost-effective manner."[100]
	"USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[101]
	"The FlexNet system's two-way features include demand reads, kWh and actual voltage, and programmable read interval, low-voltage and breaker re-closure warnings, power fail alarm, and meter functions that are accessible from the Internet. Additional benefits include remote meter disconnect/reconnect, 15-minute demand resets, real-time clock calibration for top-of-the-hour reads, TOU billing and consumption correlation, energy management programs, text and rate change notification, load shed and restore, and real-time data for management and billing. The FlexNet system also has gas and water modules for combo utility applications. "Patented AMDS Connect wireless network architecture coupled with the latest generation of Sensus iCon meters has already been demonstrated to be a winning combination in several utility operating environments, including some of the most varied and

Claim Chart: U.S. Patent 5,388,101

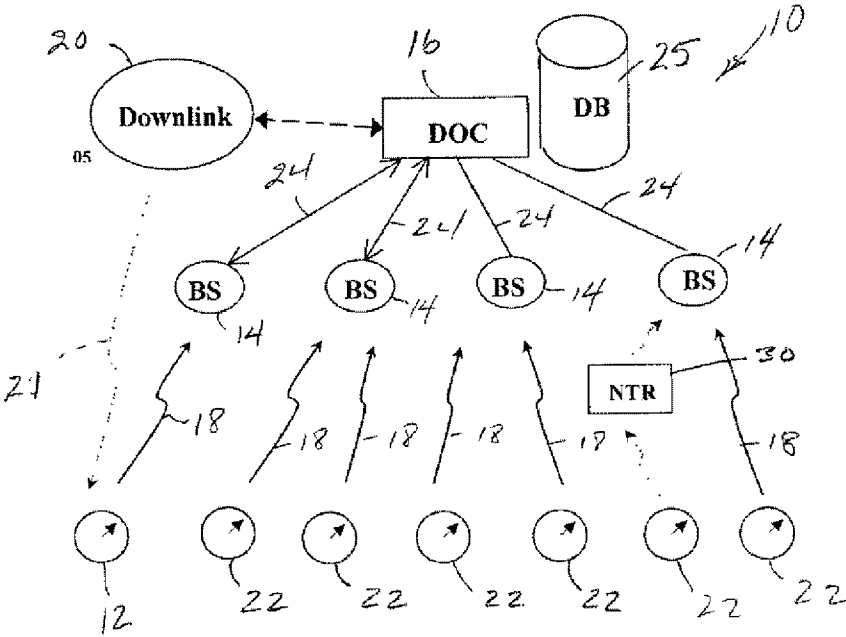| Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
	unforgiving terrains in the country," added Britton Sanderford, President and CEO of AMDS. "The FlexNet system builds on that foundation to provide the most accurate and reliable meter reading system available in today's electric utility industry," Sanderford concluded.""[102] "A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below."[103]

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
	  "The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[104] "Other communication means between the DOC and the Base Stations may be a wireless cellular network, CDPD, PSTN and satellite data network."[105] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet

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Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
	Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
means for providing for two-way digital communications between two different subscriber units by a serial communication path extending through a base station, the satellite, the central station, the satellite and back to a base station, wherein at least some of said base stations serve a set of subscriber units dispersed	"The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[106]

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Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
over a predetermined geographic area and comprise communication means between the subscriber units with the base station including a set of stationary receive only terminals remote from the base station coupled by a communication link with the base station for conveying transmitted messages from subscriber units in a subdivided portion of said geographic area in the vicinity of the receive only terminals to the base station,	 "Metering data messages are collected by a network of receiver Base Stations. The reception range of each Base Station is typically over 5 miles in urban areas, allowing sparse infrastructure deployment for a wide variety of metering data collection applications."[107] "According to a particular embodiment of the present invention, a one-way direct sequence spread spectrum (DSSS) communications network is used as the data collection channel (uplink) of an automatic meter reading (AMR) application and a paging network, or other suitable downlink network, is used as an optional forward (downlink) channel in a cost-effective manner."[108] "USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
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Claim Chart: U.S. Patent 5,388,101

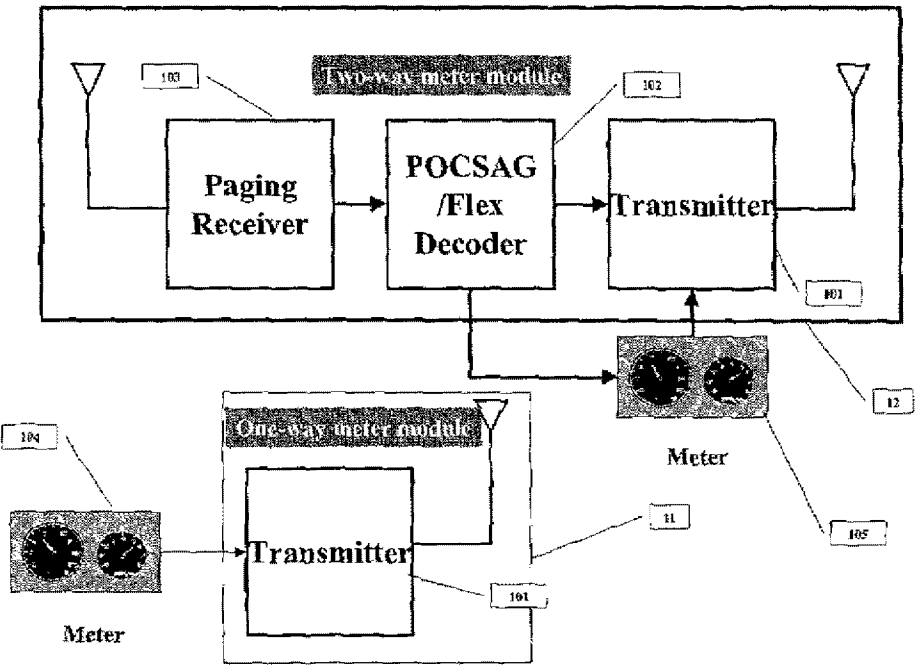| Claim Language	Accused System
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	includes the data itself, as indicated at 96."[113] FIG 7 "The Tower Gateway Base Station (TGB) is a one-way application and receives transmission from the FlexNet SmartPoint in predetermined intervals. TGB's are strategically located within an area to insure coverage requirements are achieved. The SmartPoint units can be housed on typical communications towers and/or on a utility's property should they meet the criteria for installation. Once the data is received at the TGB, the information is then forwarded to the Regional Network Interface (RNI) typically located at the utility."[114] "Level 2: Space diversity is implemented to adjust network capacity, by controlling the amount of Base Stations used in order to provide coverage to specified meter population and metering data application in a specified geographical area. The initial phase of planning network coverage includes optimal selection of the number and locations of Base Stations to be deployed in the specified area. When a Base Station covers a large area and the meter module density or air message frequency requirements continuously increase, at some stage the farthest meter modules would endure interference from the closer meter modules, and message reception probability from the farthest meter modules will decrease. Base Stations may be added at appropriate locations in the same geographic area, in order to increase network capacity and message reception rate. Adding Base Stations reduces the effective

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Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
	range between each meter module to be deployed and the Base Station closest to it, so that more meter modules or potential meter module locations are within a range of high air-message reception probability. Thus, the placement of additional Base Stations in the same geographic area, without any other change in the network or the meter modules, will in itself increase overall network capacity."[115] "The features incorporated in the TGB provide the industry's most reliable data collection system. Incorporated in the design, the system provides assurance that data will not be lost and can also be held for extended periods of time. One of the primary features of the TGB is its ability to store thirty (30) days worth of data. This feature provides the ability for the end user to access the tower should an extended outage occur. The TGB also incorporates other alternative communication methods in the chance that the primary communication link is disabled. In addition, the TGB provides an eight (8) hour battery backup in case the primary source of power is interrupted. In the case of multiple TGB sites in the coverage area, neighboring TGBs can accept and process data if required."[116] "What types of communication options are available for sending information from the TGB back to the Regional Network Interface (RNI)? A network connection supporting TCP/IP (internet protocol) packet data communication is required at the site. Examples for suitable communications service types are Frame Relay, cable internet, DSL internet, AFAR Wireless Bridge, or dedicated line (point-to-point)."[117] "The FlexNet Network Portal (FNP) is an optional receive and transmit unit that provides simple store and forward messaging from Sensus FlexNet SmartPoints. Units are strategically placed after the complete deployment of FlexNet Tower Gateway Base Stations (TGB). Once areas within a network have been identified to have little or no coverage, the FNP provides an economical solution within an existing network. Messages are collected at the FNP and transmitted to the TGB over a primary licensed frequency to assure that coverage is provided within a designated service territory. Operation: The FNP operates within a deployed network to assure that messages are received at the Regional Network Interface (RNI). The FNP typically can support up to four hundred (400) FlexNet SmartPoints within a serviceable range of an installed network. RF transmissions on the Sensus primary licensed frequency allow the FNP to

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Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
	receive and transmit messages from Sensus FlexNet SmartPoints to the TGB. By incorporating RF transmission as the backhaul communications method, the utility has greater flexibility in installation options. Numerous locations such as light poles, buildings or existing utility structures with access to AC power (110-240 VAC) provide excellent locations for FNP installations. Flexible antenna options can be utilized to maximize performance. The FNP incorporates a battery back up power source should a power outage occur which allows for seamless operation.”[118] Additional information disclosing this claim element can be found in “Sensus FlexNet Annual Maintenance Agreement AMR-454-R2,” (EON-SENS 000001-2); “FlexNet Network Portal – FNP AMI-460,” (EON-SENS 000003); “Model 510X Non-Pit Set AMR 326-R5,” (EON-SENS 000004); “Model 520X - Pit Set AMR 327-R4,” (EON-SENS 000005); “regional Network Interface AMI-420,” (EON-SENS 000006); “Tower Gateway Base Station AMR 452-R1,” (EON-SENS 000007); “FlexNet System Specifications AMR-456-R1,” (EON-SENS 000008-9); “FlexNet Technology Overview,” (EON-SENS 000010-13); “FlexNet System,” (EON-SENS 000014-21); “Technical Report,” (EON-SENS 000022); “FlexNet with AMDS Connect Promises Increased Productivity,” (EON-SENS 000023-24); “Advanced Metering Data Systems,” (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the “’530 Patent”) and U.S. Patent 7,012,546 (the “’546 Patent”), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
subscriber transmitter units for	“A two-way meter module is capable of transmitting metering data air messages on demand

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
transmitting digital amplitude modulated pulses at a peak power in the milliwatt range,	(upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below."[119]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
	"USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[120] "In a particular embodiment, the transmitted power is one watt, for a duration of 150 msec and with a recharge time of 90 seconds."[121] "Sensus FlexNet SmartPoint model 520X is a pit set radio signal device which permits off site meter reading via licensed radio signal in a pit set or vault environment. The model 520 is designed to maximize performance in an RF environment. In order to achieve maximum performance, the model 520 must be installed through the pit lid. The FlexNet SmartPoint interfaces with any compatible absolute encoder equipped utility meter and operates in conjunction with a Sensus FlexNet system. The Sensus FlexNet System eliminates a number of meter reading problems such as lockouts, curbside reading estimates, estimated bills and errors associated with manual meter reading methods. The FlexNet SmartPoint is available in one and two port models. This feature provides enhanced cost effective AMI where multiple meter installations exist."[122] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
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and data processing means at the base station for assembling and re-transmitting digital subscriber messages from the subscriber units via the satellite to the central station, said subscriber units being portable, said base station including means to receive messages from said subscriber units through a single one of said receive only terminals.	"Other communication means between the DOC and the Base Stations may be a wireless cellular network, CDPD, PSTN and satellite data network."[123] "The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[124] "USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network.

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
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	Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[125] "The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[126] FIG 7 "What types of communication options are available for sending information from the TGB back to the Regional Network Interface (RNI)? A network connection supporting TCP/IP (internet protocol) packet data communication is required at the site. Examples for suitable communications service types are Frame Relay, cable internet, DSL internet, AFAR Wireless Bridge, or dedicated line (point-to-point)."[127]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 17	Sensus FlexNet and compatible equipment
	Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
18. A point-to-point interactive video network system having a central switching station, a plurality of base	"The Sensus FlexNet System is a wide area Advanced Metering Infrastructure (AMI) system that provides the ability to read water, gas and electric meters with a common AMI platform. The FlexNet system is designed around the central concepts of Simplicity, Flexibility,

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
stations, a satellite station, and a set of subscriber units located in the vicinity of each base unit, comprising in combination,	and Reliability. The system supports one-way radio frequency (RF) transmission for water and gas meters, and offers two-way RF functionality for electric meters, including on-demand readings, remote disconnects/reconnects, and load shedding."[128] "The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[129] "Metering data messages are collected by a network of receiver Base Stations. The reception range of each Base Station is typically over 5 miles in urban areas, allowing sparse

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	infrastructure deployment for a wide variety of metering data collection applications."[130]
	"According to a particular embodiment of the present invention, a one-way direct sequence spread spectrum (DSSS) communications network is used as the data collection channel (uplink) of an automatic meter reading (AMR) application and a paging network, or other suitable downlink network, is used as an optional forward (downlink) channel in a cost-effective manner."[131]
	"USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[132]
	"The FlexNet system's two-way features include demand reads, kWh and actual voltage, and programmable read interval, low-voltage and breaker re-closure warnings, power fail alarm, and meter functions that are accessible from the Internet. Additional benefits include remote meter disconnect/reconnect, 15-minute demand resets, real-time clock calibration for top-of-the-hour reads, TOU billing and consumption correlation, energy management programs, text and rate change notification, load shed and restore, and real-time data for management and billing. The FlexNet system also has gas and water modules for combo utility applications. "Patented AMDS Connect wireless network architecture coupled with the latest generation of Sensus iCon meters has already been demonstrated to be a winning combination in several utility operating environments, including some of the most varied and

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	unforgiving terrains in the country," added Britton Sanderford, President and CEO of AMDS. "The FlexNet system builds on that foundation to provide the most accurate and reliable meter reading system available in today's electric utility industry," Sanderford concluded.""[133] "A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below."[134]

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	  "The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[135] "Other communication means between the DOC and the Base Stations may be a wireless cellular network, CDPD, PSTN and satellite data network."[136] "The Tower Gateway Base Station (TGB) is a one-way application and receives transmission from the FlexNet SmartPoint in predetermined intervals. TGB's are

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Claim Chart: U.S. Patent 5,388,101

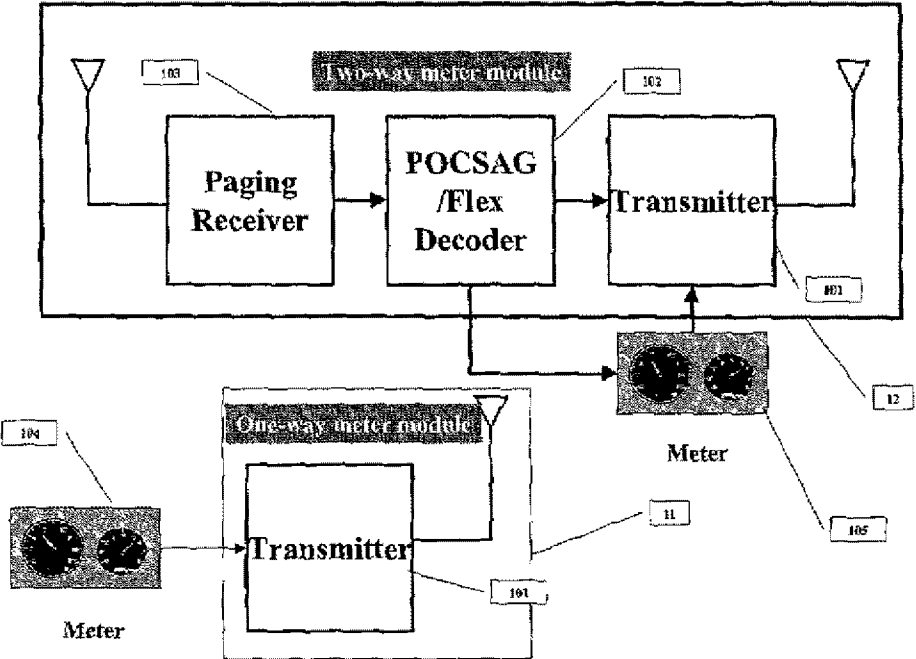| Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	strategically located within an area to insure coverage requirements are achieved. The SmartPoint units can be housed on typical communications towers and/or on a utility's property should they meet the criteria for installation. Once the data is received at the TGB, the information is then forwarded to the Regional Network Interface (RNI) typically located at the utility."[137] "The features incorporated in the TGB provide the industry's most reliable data collection system. Incorporated in the design, the system provides assurance that data will not be lost and can also be held for extended periods of time. One of the primary features of the TGB is its ability to store thirty (30) days worth of data. This feature provides the ability for the end user to access the tower should an extended outage occur. The TGB also incorporates other alternative communication methods in the chance that the primary communication link is disabled. In addition, the TGB provides an eight (8) hour battery backup in case the primary source of power is interrupted. In the case of multiple TGB sites in the coverage area, neighboring TGBs can accept and process data if required."[138] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
means for providing for two-way digital communications between two different subscriber units by a serial communication path extending through a base station, the satellite, the central station, the satellite and back to a base station, wherein at least some of said base stations serve a set of subscriber units dispersed over a predetermined geographic area and comprise communication means between the subscriber units with the base station including a set of stationary receive only terminals remote from the base station coupled by a communication link with the base station for conveying transmitted messages from subscriber units in a subdivided portion of said geographic area in the vicinity of the receive only terminals to the base station,	"The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[139]

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	  "Metering data messages are collected by a network of receiver Base Stations. The reception range of each Base Station is typically over 5 miles in urban areas, allowing sparse infrastructure deployment for a wide variety of metering data collection applications."[140] "According to a particular embodiment of the present invention, a one-way direct sequence spread spectrum (DSSS) communications network is used as the data collection channel (uplink) of an automatic meter reading (AMR) application and a paging network, or other suitable downlink network, is used as an optional forward (downlink) channel in a cost-effective manner."[141] "USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[142] "A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below."[143]

Claim Chart: U.S. Patent 5,388,101

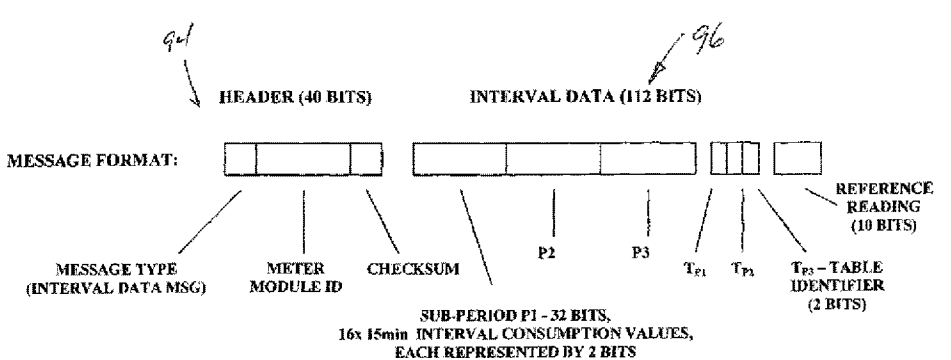| Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	"The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[144] "Other communication means between the DOC and the Base Stations may be a wireless cellular network, CDPD, PSTN and satellite data network."[145] "The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	includes the data itself, as indicated at 96."[146]

FIG 7

"The FlexNet Network Portal (FNP) is an optional receive and transmit unit that provides simple store and forward messaging from Sensus FlexNet SmartPoints. Units are strategically placed after the complete deployment of FlexNet Tower Gateway Base Stations (TGB). Once areas within a network have been identified to have little or no coverage, the FNP provides an economical solution within an existing network. Messages are collected at the FNP and transmitted to the TGB over a primary licensed frequency to assure that coverage is provided within a designated service territory. Operation: The FNP operates within a deployed network to assure that messages are received at the Regional Network Interface (RNI). The FNP typically can support up to four hundred (400) FlexNet SmartPoints within a serviceable range of an installed network. RF transmissions on the Sensus primary licensed frequency allow the FNP to receive and transmit messages from Sensus FlexNet SmartPoints to the TGB. By incorporating RF transmission as the backhaul communications method, the utility has greater flexibility in installation options. Numerous locations such as light poles, buildings or existing utility structures with access to AC power (110-240 VAC) provide excellent locations for FNP installations. Flexible antenna options can be utilized to maximize performance. The FNP incorporates a battery back up power source should a power outage occur which allows for seamless operation."[147]

"Level 2: Space diversity is implemented to adjust network capacity, by controlling the amount of Base Stations used in order to provide coverage to specified meter population and

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	metering data application in a specified geographical area. The initial phase of planning network coverage includes optimal selection of the number and locations of Base Stations to be deployed in the specified area. When a Base Station covers a large area and the meter module density or air message frequency requirements continuously increase, at some stage the farthest meter modules would endure interference from the closer meter modules, and message reception probability from the farthest meter modules will decrease. Base Stations may be added at appropriate locations in the same geographic area, in order to increase network capacity and message reception rate. Adding Base Stations reduces the effective range between each meter module to be deployed and the Base Station closest to it, so that more meter modules or potential meter module locations are within a range of high air-message reception probability. Thus, the placement of additional Base Stations in the same geographic area, without any other change in the network or the meter modules, will in itself increase overall network capacity."[148] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not

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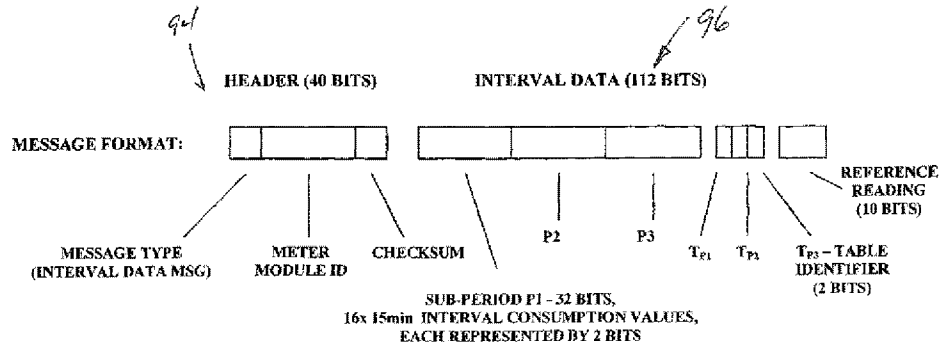| Claim Language	Accused System
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	publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
subscriber transmitter units for transmitting digital amplitude modulated pulses at a peak power in the milliwatt range, and	"A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below."[149] "USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[150]

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	"In a particular embodiment, the transmitted power is one watt, for a duration of 150 msec and with a recharge time of 90 seconds."[151] "Sensus FlexNet SmartPoint model 520X is a pit set radio signal device which permits off site meter reading via licensed radio signal in a pit set or vault environment. The model 520 is designed to maximize performance in an RF environment. In order to achieve maximum performance, the model 520 must be installed through the pit lid. The FlexNet SmartPoint interfaces with any compatible absolute encoder equipped utility meter and operates in conjunction with a Sensus FlexNet system. The Sensus FlexNet System eliminates a number of meter reading problems such as lockouts, curbside reading estimates, estimated bills and errors associated with manual meter reading methods. The FlexNet SmartPoint is available in one and two port models. This feature provides enhanced cost effective AMI where multiple meter installations exist."[152] "What types of communication options are available for sending information from the TGB back to the Regional Network Interface (RNI)? A network connection supporting TCP/IP (internet protocol) packet data communication is required at the site. Examples for suitable communications service types are Frame Relay, cable internet, DSL internet, AFAR Wireless Bridge, or dedicated line (point-to-point)."[153] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
data processing means at the base station for assembling and re-transmitting digital subscriber messages from the subscriber units via the satellite to the central station, each of the receive only terminals receiving signals in a different frequency band, and	"Other communication means between the DOC and the Base Stations may be a wireless cellular network, CDPD, PSTN and satellite data network."[154] "The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules."[155] "USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for $1.5 million and the opportunity to receive an additional $3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."[156] "Each receiver Base Station 02 is able to receive and decode DSSS encoded signals (air messages) generated by the meter modules. The bandwidth of the DSSS signal is approximately 2 MHz. Base Stations 02 can be optimized to receive signals in any radio frequency range between 800 MHz and 1 GHz, including the 902 928 MHz Industrial, Scientific, and Medical (ISM) band allocated by the FCC for unlicensed use. In a preferred embodiment, the data collection network operates in the ISM band under the rules for unlicensed operation (Part 15 of the FCC Rules), and requires no licensing for any portion of its wireless uplink channel."[157] "The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."[158] FIG 7 "What types of communication options are available for sending information from the TGB back to the Regional Network Interface (RNI)? A network connection supporting TCP/IP (internet protocol) packet data communication is required at the site. Examples for suitable communications service types are Frame Relay, cable internet, DSL internet, AFAR

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Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	Wireless Bridge, or dedicated line (point-to-point)."[159] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety. The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.
the subscriber units having means for selecting a transmission carrier frequency in a plurality of the frequency bands.	"Each receiver Base Station 02 is able to receive and decode DSSS encoded signals (air messages) generated by the meter modules. The bandwidth of the DSSS signal is approximately 2 MHz. Base Stations 02 can be optimized to receive signals in any radio frequency range between 800 MHz and 1 GHz, including the 902 928 MHz Industrial, Scientific, and Medical (ISM) band allocated by the FCC for unlicensed use. In a preferred

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
Claim 18	Sensus FlexNet and compatible equipment
	embodiment, the data collection network operates in the ISM band under the rules for unlicensed operation (Part 15 of the FCC Rules), and requires no licensing for any portion of its wireless uplink channel."[160] "Level 3: Frequency diversity is implemented by utilizing more than one uplink frequency channel within a coverage area. Meter modules may be programmed to alter their transmission frequency channel each air message transmission. In addition, a Base Station may consist of several receivers in multiple frequency channels, thus significantly increasing the Base Station's air message reception capacity. Frequency diversity may thus eliminate or postpone coverage problems, which would otherwise require adding Base Station sites. In addition, frequency diversity may be combined with space diversity by feeding receivers operating in different uplink frequency channels at the same Base Stations with signals from separate antennas. In the 902 928 MHz unlicensed ISM band, a particular embodiment of the network may operate in up to 57 channels, spaced 400 kHz apart, but a more practical limit for reliable operation would be about 10 channels. Each new frequency channel receiver added, increases the Base Station's capacity. When performed on a regional Base Station network, adding channels significantly increases the entire network's capacity."[161] Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (OEN-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.

Claim Chart: U.S. Patent 5,388,101

Claim Language	Accused System
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	The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "'530 Patent") and U.S. Patent 7,012,546 (the "'546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.

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[1] EON-SENS 000008-9
[2] '530 Patent, col. 3, line 65 to col. 4, line 4.
[3] '530 Patent, col. 3, lines 61-65.
[4] '530 Patent, col. 5, lines 20-26.
[5] '530 Patent, col. 8, lines 23-38.
[6] EON-SENS 000006
[7] '530 Patent, col. 9, lines 16-38.
[8] '530 Patent, col. 10, lines 5-21.
[9] '530 Patent, col. 10, lines 29-39.
[10] '546 Patent, col. 14, line 66 to col. 15, line 3.
[11] '546 Patent, col. 15, line 23-40.
[12] '530 Patent, col. 6, lines 16-27.
[13] '546 Patent, col. 14, line 66 to col. 15, line 3.
[14] EON-SENS 000007
[15] EON-SENS 000007
[16] EON-SENS 000003
[17] '530 Patent, col. 9, lines 16-38.
[18] '530 Patent, col. 8, lines 23-38.
[19] '530 Patent, col. 15, line 18-20.
[20] '546 Patent, col. 14, line 66 to col. 15, line 3.
[21] '546 Patent, col. 15, line 23-40.
[22] EON-SENS 000005

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Claim Chart: U.S. Patent 5,388,101

[23] EON-SENS 000026

[24] EON-SENS 000028-29

[25] EON-SENS 000031-41

[26] '530 Patent, col. 7, lines 3-13.

[27] EON-SENS 000006

[28] '530 Patent, col. 9, lines 16-38.

[29] '530 Patent, col. 7, lines 26-41.

[30] '530 Patent, col. 10, line 40-58.

[31] '530 Patent, col. 6, lines 51-56.

[32] '546 Patent, col. 14, line 66 to col. 15, line 3.

[33] EON-SENS 000003

[34] '530 Patent, col. 9, lines 16-38.

[35] '530 Patent, col. 3, lines 61-65.

[36] '530 Patent, col. 3, line 65 to col. 4, line 4.

[37] EON-SENS 000026

[38] '546 Patent, col. 14, line 66 to col. 15, line 3.

[39] '530 Patent, col. 6, lines 46-49.

[40] '546 Patent, col. 14, line 66 to col. 15, line 3.

[41] EON-SENS 000006

[42] EON-SENS 000042-44

[43] '546 Patent, col. 14, line 66 to col. 15, line 3.

[44] '530 Patent, col. 6, lines 16-27.

[45] EON-SENS 000006

[46] '546 Patent, col. 15, line 23-40.

[47] '546 Patent, col. 14, line 66 to col. 15, line 3.

[48] '530 Patent, col. 6, lines 16-27.

[49] '546 Patent, col. 15, line 23-40.

[50] '546 Patent, col. 14, line 66 to col. 15, line 3.

[51] '530 Patent, col. 6, lines 16-27.

[52] '546 Patent, col. 15, line 23-40.

[53] '530 Patent, col. 6, lines 16-27.

[54] '546 Patent, col. 14, line 66 to col. 15, line 3.

[55] '530 Patent, col. 10, lines 5-21.

[56] '530 Patent, col. 8, lines 23-38.

[57] '546 Patent, col. 14, line 66 to col. 15, line 3.

[58] '546 Patent, col. 14, line 66 to col. 15, line 3.

[59] '530 Patent, col. 10, lines 5-21.

[60] '546 Patent, col. 14, line 66 to col. 15, line 3.

[61] '530 Patent, col. 6, lines 16-27.

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Claim Chart: U.S. Patent 5,388,101

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[62] '530 Patent, col. 9, lines 39-58.

[63] EON-SENS 000005

[64] EON-SENS 000008-9

[65] '530 Patent, col. 3, line 65 to col. 4, line 4.

[66] EON-SENS 000026

[67] EON-SENS 000028-29

[68] '530 Patent, col. 3, lines 61-65.

[69] '530 Patent, col. 5, lines 20-26.

[70] '530 Patent, col. 8, lines 23-38.

[71] '530 Patent, col. 3, line 65 to col. 4, line 4.

[72] '530 Patent, col. 6, lines 46-49.

[73] '530 Patent, col. 3, line 65 to col. 4, line 4.

[74] EON-SENS 000026

[75] '530 Patent, col. 3, lines 61-65.

[76] '530 Patent, col. 5, lines 20-26.

[77] '530 Patent, col. 8, lines 23-38.

[78] '530 Patent, col. 3, line 65 to col. 4, line 4.

[79] '530 Patent, col. 6, lines 46-49.

[80] '546 Patent, col. 14, line 66 to col. 15, line 3.

[81] EON-SENS 000007

[82] EON-SENS 000007

[83] EON-SENS 000042-44

[84] EON-SENS 000003

[85] '530 Patent, col. 9, lines 16-38.

[86] '530 Patent, col. 8, lines 23-38.

[87] EON-SENS 000026

[88] '530 Patent, col. 15, line 18-20.

[89] EON-SENS 000005

[90] '530 Patent, col. 6, lines 16-27.

[91] '530 Patent, col. 6, lines 46-49.

[92] '530 Patent, col. 3, line 65 to col. 4, line 4.

[93] EON-SENS 000026

[94] '530 Patent, col. 9, lines 39-58.

[95] '546 Patent, col. 14, line 66 to col. 15, line 3.

[96] EON-SENS 000042-44

[97] EON-SENS 000008-9

[98] '530 Patent, col. 3, line 65 to col. 4, line 4.

[99] '530 Patent, col. 3, lines 61-65.

[100] '530 Patent, col. 5, lines 20-26.

Claim Chart: U.S. Patent 5,388,101

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[101] EON-SENS 000026

[102] EON-SENS 000028-29

[103] '530 Patent, col. 8, lines 23-38.

[104] '530 Patent, col. 3, line 65 to col. 4, line 4.

[105] '530 Patent, col. 6, lines 46-49.

[106] '530 Patent, col. 3, line 65 to col. 4, line 4.

[107] '530 Patent, col. 3, lines 61-65.

[108] '530 Patent, col. 5, lines 20-26.

[109] EON-SENS 000026

[110] '530 Patent, col. 8, lines 23-38.

[111] '530 Patent, col. 3, line 65 to col. 4, line 4.

[112] '530 Patent, col. 6, lines 46-49.

[113] '546 Patent, col. 14, line 66 to col. 15, line 3.

[114] EON-SENS 000007

[115] '530 Patent, col. 9, lines 16-38.

[116] EON-SENS 000007

[117] EON-SENS 000042-44

[118] EON-SENS 000003

[119] '530 Patent, col. 8, lines 23-38.

[120] EON-SENS 000026

[121] '530 Patent, col. 15, line 18-20.

[122] EON-SENS 000005

[123] '530 Patent, col. 6, lines 46-49.

[124] '530 Patent, col. 3, line 65 to col. 4, line 4.

[125] EON-SENS 000026

[126] '546 Patent, col. 14, line 66 to col. 15, line 3.

[127] EON-SENS 000042-44

[128] EON-SENS 000008-9

[129] '530 Patent, col. 3, line 65 to col. 4, line 4.

[130] '530 Patent, col. 3, lines 61-65.

[131] '530 Patent, col. 5, lines 20-26.

[132] EON-SENS 000026

[133] EON-SENS 000028-29

[134] '530 Patent, col. 8, lines 23-38.

[135] '530 Patent, col. 3, line 65 to col. 4, line 4.

[136] '530 Patent, col. 6, lines 46-49.

[137] EON-SENS 000007

[138] EON-SENS 000007

[139] '530 Patent, col. 3, line 65 to col. 4, line 4.

Claim Chart: U.S. Patent 5,388,101

[140] '530 Patent, col. 3, lines 61-65.
[141] '530 Patent, col. 5, lines 20-26.
[142] EON-SENS 000026
[143] '530 Patent, col. 8, lines 23-38.
[144] '530 Patent, col. 3, line 65 to col. 4, line 4.
[145] '530 Patent, col. 6, lines 46-49.
[146] '546 Patent, col. 14, line 66 to col. 15, line 3.
[147] EON-SENS 000003
[148] '530 Patent, col. 9, lines 16-38.
[149] '530 Patent, col. 8, lines 23-38.
[150] EON-SENS 000026
[151] '530 Patent, col. 15, line 18-20.
[152] EON-SENS 000005
[153] EON-SENS 000042-44
[154] '530 Patent, col. 6, lines 46-49.
[155] '530 Patent, col. 3, line 65 to col. 4, line 4.
[156] EON-SENS 000026
[157] '530 Patent, col. 6, lines 16-27.
[158] '546 Patent, col. 14, line 66 to col. 15, line 3.
[159] EON-SENS 000042-44
[160] '530 Patent, col. 6, lines 16-27.
[161] '530 Patent, col. 9, lines 39-58.

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